

TOSHIBA



DVD VIDEO RECORDER

D-KR10KU

OWNER'S MANUAL



**OPERATIONS
GUIDE**



Introduction

Connections

Basic Setup

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PRECAUTIONS

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

The caution marking is located on the rear of the cabinet.

Laser Safety

This unit employs a laser. Only a qualified service person should remove the cover or attempt to service this device, due to possible eye injury.

CAUTION: USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

CAUTION: VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK DEFEATED. DO NOT STARE INTO BEAM.

LOCATION: INSIDE, NEAR THE DECK MECHANISM.

FCC WARNING- This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

RADIO-TV INTERFERENCE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- 1) Reorient or relocate the receiving antenna.
- 2) Increase the separation between the equipment and receiver.
- 3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 4) Consult the dealer or an experienced radio/TV technician for help.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION: POUR ÉVITER LES CHOCs ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

A NOTE ABOUT RECYCLING

This product's packaging materials are recyclable and can be reused. Please dispose of any materials in accordance with your local recycling regulations.

Batteries should never be thrown away or incinerated but disposed of in accordance with your local regulations concerning chemical wastes.

Make your contribution to the environment!!!

- Used up batteries do not belong in the dust bin.



PRECAUTIONS

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Do not overload wall outlets; extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
16. Never expose the apparatus to dripping or splashing or place items such as vases, aquariums, any other item filled with liquid, or candles on top of the unit.
17. Keep your fingers well clear of the disc tray as it is closing. Neglecting to do so may cause serious personal injury.
18. Do not place anything on top of this unit.
19. Do not place the apparatus on amplifiers or equipment that may produce heat.
20. Never block or cover the slots or openings in the unit. Never place the unit:
 - on a bed, sofa, rug, or similar surface;
 - too close to drapes, curtains, or walls; or
 - in a confined space such as a bookcase, built-in cabinet, or any other place with poor ventilation.The slots and openings are provided to protect the unit from overheating and to help maintain reliable operation.
21. Do not use a cracked, deformed, or repaired disc. These discs are easily broken and may cause serious personal injury and apparatus malfunction.
22. If the apparatus should emit smoke or an unusual odor, immediately disconnect the power cord from the wall outlet. Wait until the smoke or smell stops, then ask your dealer for a check and repair. Neglecting to do so may cause fire.
23. During thunderstorms, do not touch the connecting cables or the apparatus.



PRECAUTIONS

Installation Location

For safety and optimum performance of this unit:

- Install the unit in a horizontal and stable position. Do not place anything directly on top of the unit. Do not place the unit directly on top of the TV.
- Shield it from direct sunlight and keep it away from devices of intense heat. Avoid dusty or humid places. Avoid places with insufficient ventilation for proper heat dissipation. Do not block the ventilation holes on the sides of the unit. Avoid locations subject to strong vibration or strong magnetic fields.

Avoid the Hazards of Electrical Shock and Fire

- Do not handle the power cord with wet hands.
- Do not pull on the power cord when disconnecting it from AC outlet. Grasp it by the plug.
- If, by accident, water is spilled on this unit, unplug the power cord immediately and take the unit to our Authorized Service Center for servicing.

Moisture Condensation Warning

Moisture condensation may occur inside the unit when it is moved from a cold place to a warm place or after heating a cold room or under conditions of high humidity. Do not use this unit at least for 2 hours until its inside gets dry.

About Copyright

The unauthorized recording, use, distribution, or revision of television programs, videotapes, DVDs and other materials, is prohibited under the copyright laws of the United States and other countries, and may subject you to civil and/or criminal liability.

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

Notice for Progressive Scan Output

Consumers should note that not all high definition television sets are fully compatible with this product and may cause artifacts to be displayed in the picture. In case of picture problems with 480 progressive scan output, it is recommended that the user switch the connection to the "standard definition" output. If there are questions

Supplied Accessories

remote control



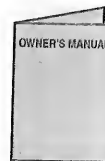
RCA audio/video cables



HDMI cable



owner's manual



quick setup guide



Maintenance

Servicing

- Please refer to relevant topics on "TROUBLESHOOTING" on pages 96-99 before returning the product.
- If you need to call a customer service representative, please know the model number and serial number of your product before you call. This information is displayed on the back of the product. Also, please take a moment to identify the problem you are having, and be prepared to explain this to the representative. If you believe the representative will need to help you with operations, please stay near the product. Our representatives will be happy to assist you.

Cleaning The Cabinet

- Wipe the front panel and other exterior surfaces of the unit with a soft, slightly damp cloth.
- Never use a solvent, thinner, benzene or alcohol to clean the unit. Do not spray insecticide liquid near the unit. Such chemicals may discolor the surface or damage the unit.

Cleaning Discs

- When a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the center to out. Do not wipe in a circular motion.
- Do not use solvents such as benzene, thinner, commercially available cleaners, detergent, abrasive cleaning agents or antistatic spray intended for analog records.

Cleaning The Disc Lens

- If this unit still does not perform properly although you refer to the relevant sections and to "TROUBLESHOOTING" in this owner's manual, the laser optical pickup unit may be dirty. Consult your dealer or an Authorized Service Center for inspection and cleaning of the laser optical pickup unit.

Disc Handling

- Handle the discs so that fingerprints and dust do not adhere to the surfaces of the discs.
- Always store the disc in its protective case when it is not used.

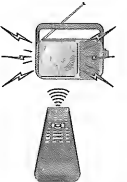
PRECAUTIONS

IR Signal Check

If the remote control does not work properly, you can test if the remote control sends out the infrared signal with AM radio or a digital camera (including built-in camera of cellular phone). It will help to define the cause of malfunction.

With an AM radio:

Tune an AM radio to a station with no broadcasting. Press a button on remote control toward the radio. Sound will be fluttering when you press any key and the radio receives the signal. This means the remote control is working.



With a digital camera (including built-in camera of cellular phone):

Direct a digital camera to remote control, press and hold a button on remote control. If infrared light appears through digital camera, the remote control is working.



"WMA" (Windows Media Audio) is a new audio codec developed by Microsoft® in the United States of America.

"DTS" and "DTS Digital Out" are registered trademarks of DTS, Inc.



Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.



HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

Dolby Digital Recording

"Dolby" Digital Recording enables consumers to record high-quality video with stereo sound on recordable DVD discs. The technology, when utilized instead of PCM recording, also saves recordable disc space, allowing for higher video resolution or extended recording time on each DVD. DVDs created using Dolby Digital Recording will play back on all DVD-video players."

Note: This is true when the players are compatible with actual recordable DVD discs.

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FEATURES

This unit not only plays back DVD and CD but also offers features for you to record on DVD and edit them after that. The following features are offered with this unit.

Recording

This unit is compatible with recording on DVD-RW/+RW which are recordable repeatedly and DVD-R, DVD+R which accept the additional recordings until the disc becomes full but not overwritable. You can choose either one for your convenience.

Up to 12 program recording:

You can program the unit to record up to 12 programs, with in a month in advance. Daily or weekly program recordings are also available.

One-touch timer recording (OTR):

You can easily set a recording time as you prefer. Every time [REC ●] is pressed during recording, the recording time will be increased by 30 minutes up to 8 hours. The recording automatically stops when the recording time you set is reached.

DV dubbing:

This function helps you to easily dub the contents of the DVC (digital video camcorder) to DVD.

Automatic chapter mark setting:

Chapter marks will be put on recordings as you set before attempting to record.

Automatic title menu making:

The unit creates title menu automatically when finalizing discs.

Automatic playlist making:

The unit creates a playlist automatically after recording.

Automatic title finalizing:

You can finalize discs automatically after finishing all timer recordings or at the end of the disc space if you set this in the main menu.

Left channel stereo recording:

This unit can record the sound of the left channel monaural input as left and right channels automatically (the input from the L2 jacks only).

Playback

Theater surround sound in your home:

When connecting the unit to an amplifier or a decoder which is compatible with Dolby Digital or DTS, you can experience the theater surround sound from discs with surround sound system.

Quick search for what you want to watch:

You can easily find the part you want to watch using the search function. Search for a desired point on a disc by title, chapter/track or time.

Virtual surround system:

You can enjoy stereophonic space through your existing 2 channel stereo system.

Playing back on MP3/WMA/JPEG/DivX® files:

You can enjoy MP3/WMA/JPEG/DivX® files which are recorded on CD-RW/-R. DivX® files can also be recorded on DVD-RW/-R and DVD+RW/+R.

Editing

Deleting titles:

Dividing or combining titles:

You can divide or combine a title.

Editing title names:

You can change the title name you prefer.

Compatibility

Available for playing back discs on a regular DVD player

Recorded discs can be played back on regular DVD players, including computer DVD drives compatible with DVD-video playback. Although DVD+RW/+R are playable on other units without finalization in most cases, it is recommended to finalize in order to stabilize the performance.

Others

Progressive scan system

Unlike conventional interlace scanning, the progressive scan system provides less flickering and images in higher resolution than that of traditional television signals.

HDMI (High-Definition Multimedia Interface)

You can enjoy clearer audio/video output when connecting this unit to a display device with an HDMI-compatible port.

Line through output

When an external device, such as cable/satellite box is connected to L1(Rear) jacks of this unit, the signal from the external device can be output even when the power of the unit is off.

Symbols Used in this Owner's Manual

To specify for what disc type each function is, we put the following symbols at the beginning of each item to operate.
* DVD-R recorded in VR format or non compatible recording format are not playable.

Symbol Description

For Recording, Playing Back, and Editing



Description refers to DVD-RW in video mode



Description refers to DVD-RW in VR mode



Description refers to DVD-R in video mode



Description refers to DVD+RW



Description refers to DVD+R

For Playback only



Description refers to DVD-video



Description refers to audio CD



Description refers to CD-RW/-R with MP3 files



Description refers to CD-RW/-R with WMA files

FEATURES

Discs for Recording, Playing back

Disc type	DVD-RW		DVD-R	DVD+RW	DVD+R
Logo					
Format	Can be formatted in VR or video mode		Automatically formatted in video mode	Automatically formatted in +VR mode	Automatically formatted in +VR mode
Icon	Video Mode 	VR Mode 			
Maximum record time	480 min (12cm) 144 min (8cm)	480 min (12cm) 144 min (8cm)	480 min (12cm) 144 min (8cm)	480 min (12cm) 144 min (8cm)	480 min (12cm) 144 min (8cm)
Recordable/playable versions	Ver.1.1,1.2 Ver.1.1/2× CPRM compatible Ver.1.2/4× CPRM compatible		Ver.2.0 Ver.2.0/4× Ver.2.0/8× Ver.2.0/16×	1×-4×	1×-16×
Compatibility	Playable on most DVD players. Finalization necessary. (DVD menu will be created)	Playable only on VR mode compatible unit. Finalization recommended.	Playable on most DVD players. Finalization necessary. (DVD menu will be created)	Playable on DVD+RW compatible players. Finalization recommended. (DVD menu will be created)	Playable on most DVD players. Finalization recommended. (DVD menu will be created)

Available Features

Recording Features

Record TV programs	✓	✓	✓	✓	✓
Reuse by deleting the current contents	✓	✓		✓	
Record 16:9 size pictures	✓	✓	✓		
Record copy-once programs		✓*			
Create chapters at fixed intervals (auto chapter)	✓	✓	✓	✓	✓

Editing Features

	Playlist	Original			
Scene delete	✓	✓			
Edit title name	✓	✓	✓	✓	✓
Create chapters wherever you like (chapter mark)		✓		✓	✓
Divide a title		✓		✓	
Combine titles		✓			

FEATURES

Discs for playing back				
Disc Type	DVD-VIDEO	CD-DA	CD-RW	CD-R
Logo				
Icon				
Files for playing back				
Type of title	MP3	WMA	JPEG	DivX®
Icon				
Media	CD-RW/-R	CD-RW/-R	CD-RW/-R	CD-RW/-R DVD-RW/-R DVD+RW/+R

DVD is a trademark of DVD Format/Logo Licensing Corporation.



DivX, DivX Certified, and associated logos are trademarks of DivX, Inc. and are used under license.

- Official DivX® Certified product; Plays DivX® 6.0, DivX® 5, DivX® 4, DivX® 3, and DivX® VOD video content (in compliance with DivX Certified™ technical requirements).
- Discs containing the DivX® files with the DivX® GMC (Global Motion Compensation) playback feature, which is DivX® supplemental function, cannot be played back on this unit.
- * This unit cannot play back the disc contents protected by Windows Media Digital Rights Management (DRM).

Unplayable Discs

The following discs will not play back on this unit.

- CD-ROM • Compact Disc-Interactive (CD-I)
- Video Single Disc (VSD) • DVD-ROM
- DVD-audio • Unfinalized disc
- DVD contains MP3, WMA or JPEG files
- DVD-R recorded in VR format or non compatible recording format

On the following disc, the sound may not be heard.

- Super audio CD - Only the sound on the CD layer can be heard. The sound on the high-density super audio CD layer cannot be heard.

Color Systems

DVD is recorded in different color systems throughout the world. The most common color system is NTSC (which is used primarily in the United States and Canada). This unit uses NTSC, so DVD you play back must be recorded in the NTSC system. You cannot play back DVD recorded in other color systems.

Region Codes

The number inside the globe refers to region of the world. A DVD labeled for a specific region can only play back on the unit with the same region code.

Following discs are recommended for good recording quality and are proven to be compatible with this unit. However, depending on the media condition, the unit may not read the disc properly.

Verbatim DVD+R 8x, DVD+RW 4x, DVD-R 8x, DVD-RW 2x
JVC DVD-RW 4x
Maxell DVD+R 4x/8x/16x, DVD-R 8x/16x
SONY DVD+R 4x/8x/16x, DVD+RW 4x
TDK DVD+R 4x/8x/16x

Performance of any other discs are not guaranteed.

- Toshiba is not liable for any damage or loss caused directly or indirectly by the malfunction of this recorder, including without limitation, any one of the following:

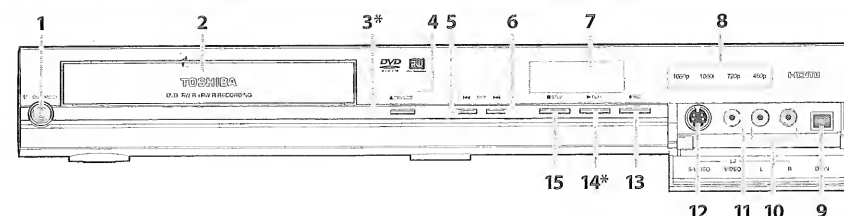
- Failure to record contents intended to be recorded by the consumer.
- Failure to edit contents as intended by the consumer.
- When a DVD-RW/-R, DVD+RW/+R disc created on this recorder is used (e.g., insertion, playback, recording or editing) in another DVD player, recorder or personal computer drive.
- When a DVD-RW/-R, DVD+RW/+R disc that is used in the manner described in the immediately preceding bullet point is used again in this recorder.
- When a DVD-RW/-R, DVD+RW/+R disc that was recorded in another DVD recorder, or in a personal computer drive is used in this recorder.

- Some functions may not work with personal computer discs.
- Discs recorded in this recorder may not operate as expected on other DVD players, recorders or personal computer drives.

Because of problems and errors that can occur during the creation of DVD and CD software and/or the manufacture of DVD and CD discs, Toshiba cannot assure that this DVD Video Recorder will successfully play every disc bearing the

FUNCTIONAL OVERVIEW

Front Panel



The unit can also be turned on by pressing these buttons.

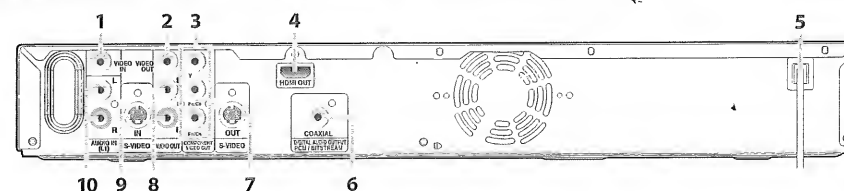
- 1. I/O ON/STANDBY button**
Press to turn the unit on and off.
If timer programmings have been set, press to set the unit in timer-standby mode.
- 2. Disc tray**
Place a disc when the disc tray is opened.
- 3. OPEN/CLOSE button***
Press to open or close the disc tray.
- 4. Infrared sensor window**
Receive signals from your remote control so that you can control the unit from a distance.
- 5. SKIP button**
During playback, press once midway through a chapter or track to go back to the beginning of the current chapter or track. When pressed twice in quick succession, playback will start from the preceding chapter or track.
During playback, press and hold for 1.5 seconds to fast reverse.
When playback is paused, press to play back reverse step by step.
When playback is paused, press and hold for 1.5 seconds to slow reverse.
- 6. SKIP button**
During playback, press to skip to the next chapter or track.
During playback, press and hold for 1.5 seconds to fast forward.

When playback is paused, press to play back advance step by step.

When playback is paused, press and hold for 1.5 seconds to slow forward.

- 7. Display**
Refer to "FRONT PANEL DISPLAY GUIDE" on page 17.
- 8. HDMI indicator**
Lights up and indicates the HDMI output mode when HDMI output is on.
- 9. DV IN jack (L3)**
Use to connect the DV output of external device with a DV cable.
- 10. AUDIO input jacks (L2)**
Use to connect external device with a RCA audio cable.
- 11. VIDEO input jack (L2)**
Use to connect external device with a RCA video cable.
- 12. S-VIDEO input jack (L2)**
Use to connect the S-video output of external device with an S-video cable.
- 13. REC button**
Press once to start a recording. Press repeatedly to start one-touch timer recording.
- 14. PLAY button***
Press to start or resume playback.
- 15. STOP button**
Press to stop playback or recording.

Rear Panel



- 1. VIDEO IN jack (L1)**
Use to connect external device with a RCA video cable.
- 2. VIDEO OUT jack**
Use to connect a TV monitor, AV receiver or other device with a RCA video cable.
- 3. COMPONENT VIDEO OUTPUT jacks**
Use to connect a TV monitor with component video inputs with a component video cable.

- 7. S-VIDEO OUT jack**
Use to connect the S-video input of a TV monitor, AV receiver or other device with an S-video cable.
- 8. AUDIO OUT jacks**
Use to connect a TV monitor, AV receiver or other device with a RCA audio cable.
- 9. S-VIDEO IN jack (L1)**
Use to connect the S-video output of external device with an S-video cable.

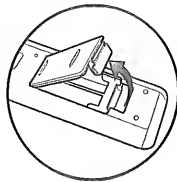
FUNCTIONAL OVERVIEW

Remote Control

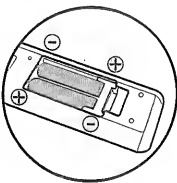
Installing the Batteries in the Remote Control

Install the batteries (AAx2) matching the polarity indicated inside battery compartment of the remote control.

1 Open the cover.

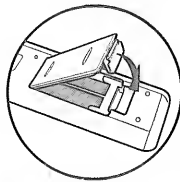


2 Insert batteries.



Make sure to match + and - on the batteries to the marks indicated in the battery compartment.

3 Close the cover.



Caution:

Never throw batteries into a fire.

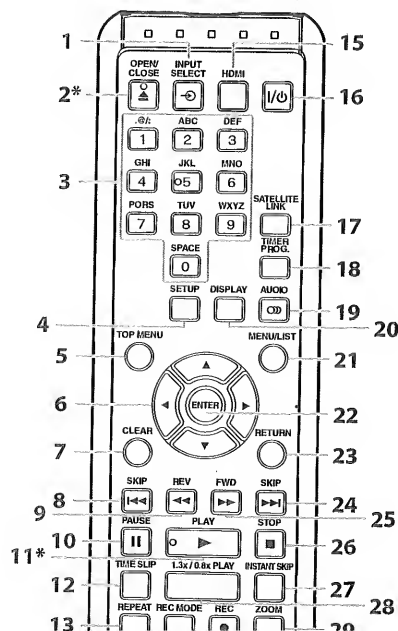
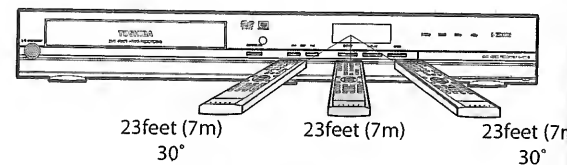
Note:

- Be sure to use AA size batteries.
- Dispose of batteries in a designated disposal area.
- Batteries should always be disposed of with the environment in mind. Always dispose of batteries in accordance with applicable laws and regulations.
- If the remote control does not operate correctly, or if

Using a Remote Control

Keep in mind the following when using the remote control:

- Make sure that there are no obstacles between the remote control and the infrared sensor window on the unit.
- Remote operation may become unreliable if strong sunlight or fluorescent light is shining on the infrared sensor window of the unit.
- Remote control for different devices can interfere with each other. Avoid using remote control for other devices located close to the unit.
- Replace the batteries when you notice a fall off in the operating range of the remote control.
- The maximum operable ranges from the unit are as follows.
 - **Line of sight:** approx. 23 feet (7m)
 - **Either side of the center:** approx. 23 feet (7m) within 30°



FUNCTIONAL OVERVIEW

The unit can also be turned on by pressing these buttons.

1. INPUT SELECT button

Press to select the appropriate input.

2. OPEN/CLOSE button*

Press to open or close the disc tray.

3. Number/Character buttons

- Press to select a title/chapter/track/file on display.
- Press to enter values for the settings in the main menu.
- Press to enter title names.

4. SETUP button

- Press to display the main menu.
- During DVD playback, press and hold for more than 3 seconds to switch the progressive scanning mode to the interlace mode.

5. TOP MENU button

Press to display the title list.

6. Cursor / / / buttons

Press to select items or settings.

7. CLEAR button

Press to clear the password once entered, to cancel the programming for CD, to clear the selecting marker number in the display menu, etc.

8. SKIP button

- During playback, press to return to the beginning of the current chapter, track or file.
- When playback is in pause, press repeatedly to reverse the playback step by step.

9. REV button

- During playback, press to fast reverse playback.
- When playback is in pause, press to slow reverse playback.

10. PAUSE button

Press to pause playback or recording.

11. PLAY button*

Press to start playback or resume playback.

12. TIME SLIP button

Press once to start recording the TV program you are watching. Press again to watch the content being recorded from the beginning while recording continues. (VR mode DVD-RW with the recording mode of LP, EP or SLP only)

13. REPEAT button

Press to display the repeat menu.

14. REC MODE button

Press to switch the recording mode.

15. HDMI button

Press to set the HDMI connector's video signal output mode.

16. I/O ON/STANDBY button

Press to turn the unit on and off. If timer program-mings have been set, press to set the unit in timer-standby mode.

17. SATELLITE LINK button

Press to call up the Satellite Link setting.

18. TIMER PROG. button

Press to display the timer programming list.

19. AUDIO button

• Press to display the audio menu during playback.

20. DISPLAY button

Press to display the display menu on or off.

21. MENU/LIST button

Press to display the disc menu. To change original and playlist on the TV screen.

22. ENTER button

Press to confirm or select menu items.

23. RETURN button

Press to return to the previous displayed menu screen.

24. SKIP button

- During playback, press to skip to the next chapter, track or file.
- When playback is in pause, press repeatedly to forward the playback step by step.

25. FWD button

- During playback, press to fast forward playback.
- When playback is in pause, press to slow forward playback.

26. STOP button

- Press to stop playback or recording.
- Press to exit from the title list.

27. INSTANT SKIP button

During playback, press to skip 30 seconds.

28. 1.3x/0.8x PLAY button

During playback, press to play back in a slightly faster/slower while keeping the audio quality just as normal playback.

29. ZOOM button

During playback, press to enlarge the picture on the TV screen.

30. REC button

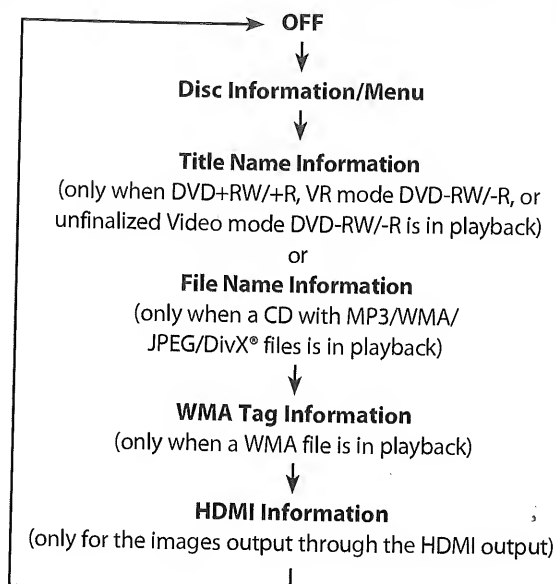
- Press once to start a recording.
- Press repeatedly to start the one-touch timer recording.

GUIDE TO ON-SCREEN DISPLAYS AND MENUS

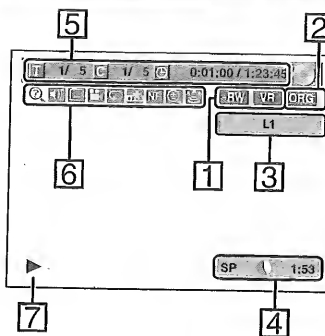
This unit uses the following on-screen displays and menus to guide you to the easy operations. The on-screen displays give you the information on the loaded disc, the disc/file in playback, or the HDMI status, etc. The menus allow you to change the various kinds of settings for playing back, recording, or editing to suite your preferences.

On-Screen Display / Menu

The on-screen display changes in the following order as you press [DISPLAY].



Disc Information / Menu



* This is an example screen only for explanation.

1. Indicates a disc type and format mode.
2. Indicates a type of titles for VR mode DVD-RW.
3. Indicates the external input position.
4. Indicates a recording mode and possible recording time left.
5. Indicates a title number, chapter number, elapsed time and total time of disc playback.
6. Each icon means:

- : Search
- : Audio
- : Subtitle
- : Angle
- : Repeat
- : Marker
- : Noise Reduction / Black Level
- : Zoom
- : Surround

7. Indicates an operation status.

Note

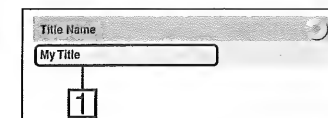
- In some descriptions on this manual, only one disc type is indicated as an example.

GUIDE TO ON-SCREEN DISPLAYS AND MENUS

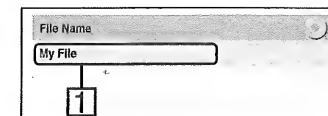
Title/File Name Information

Displays title/file name.

le name information



le name information



WMA Tag Information

Indicates artist/title information

- First, artist name will be displayed.

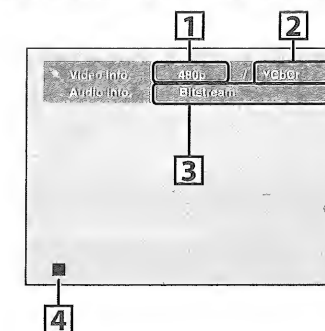


- If you press [DISPLAY] one more time, title name will be displayed.



- If there is no artist or track name, "Not Available" will be displayed.

HDMI Information

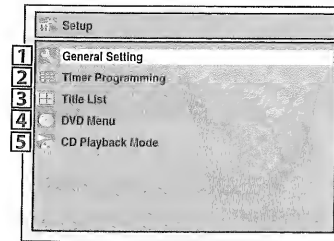


- *1. Indicates the resolution of the HDMI output image.
- *2. Indicates the HDMI video format.
- *3. Indicates the HDMI audio format.
- *4. Indicates current disc status.
- * "-" will be displayed, when it does not have any information.

GUIDE TO ON-SCREEN DISPLAYS AND MENUS

Main Menu

Press [SETUP] to display the main menu. Then use [▲ / ▼] to select a menu and press [ENTER] to display the menu. These menus provide entries to all main functions of the unit.



1. General Setting:

To go to general setting menu.

2. Timer Programming:

To program a timer recording.

3. Title List:

To call up the title list.

4. DVD Menu:

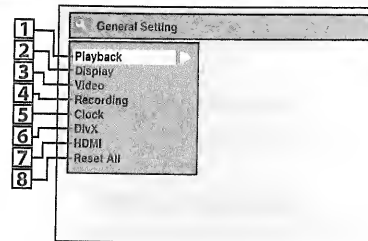
To set up the DVD setting.

5. CD Playback Mode:

To set up the CD playback setting.

• "CD Playback Mode" is available only when an audio CD, a CD-RW/-R with MP3 / WMA / JPEG.

General Setting Menu



1. Playback:

To set up the unit to play back discs as you prefer.

2. Display:

To set up the OSD screen as you prefer.

3. Video:

To set up the video setting.

4. Recording:

To set up the unit to record to discs as you prefer.

5. Clock:

To set up the clock of the unit as you need.

6. DivX:

To set up the setting for the DivX® playback.

7. HDMI:

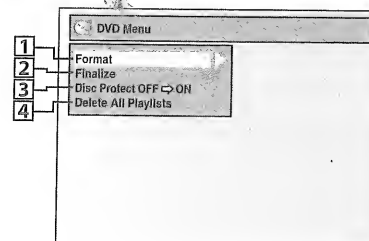
To set up the HDMI connection setting.

8. Reset All:

To reset the setting to the factory default.

DVD Menu / CD Playback Mode

<DVD Menu menu>



<CD Playback Mode menu>

1. Format (DVD-RW, DVD+RW only):

Allows you to format the disc.

2. Finalize:

Allows you to finalize a disc containing recorded titles.

3. Disc Protect (VR mode DVD-RW, DVD+RW/+R only):

Allows you to protect a disc from accidental editing or recording.

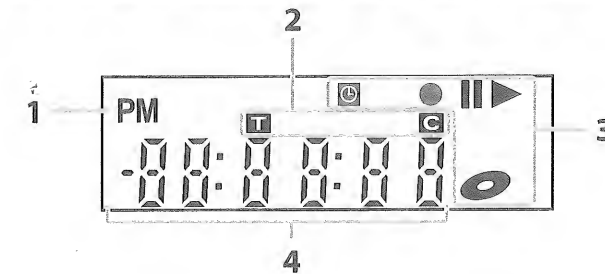
4. Delete All Playlists (VR mode DVD-RW only):

Allows you to delete playlist.

5. Random Play:

Allows you to activate the random playback feature.

FRONT PANEL DISPLAY GUIDE



1. PM

: Appears in the afternoon with the clock display.

2. Title/Track and chapter mark

T : Appears when indicating a title/track number.

C : Appears when indicating a chapter number.

3. Current status of the unit

|| : Appears when playback is paused.

▶ : Appears when playing back a disc.

⌚ : Appears when the timer programming or OTR has been set and is proceeding.

: Flashes when all timer recordings have been finished.

● : Appears during recording process.

: Flashes when a recording pauses.

○ : Appears when a disc is in this unit.

4. Displays the following

- Elapsed playback time
- Current title / chapter / track number
- Recording time / remaining time
- Clock
- Selected external input position
- Remaining time for one-touch timer recording
- Selected HDMI OUTPUT mode

Display Message



Appears when the disc tray is opening.



Appears when HDMI output mode (480p) is selected.



Appears when the disc tray is closing.



Appears when HDMI output mode (720p) is selected.



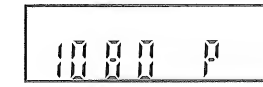
Appears when a disc is loaded on the disc tray.



Appears when HDMI output mode (1080i) is selected.



Appears when data is being recorded on a disc.

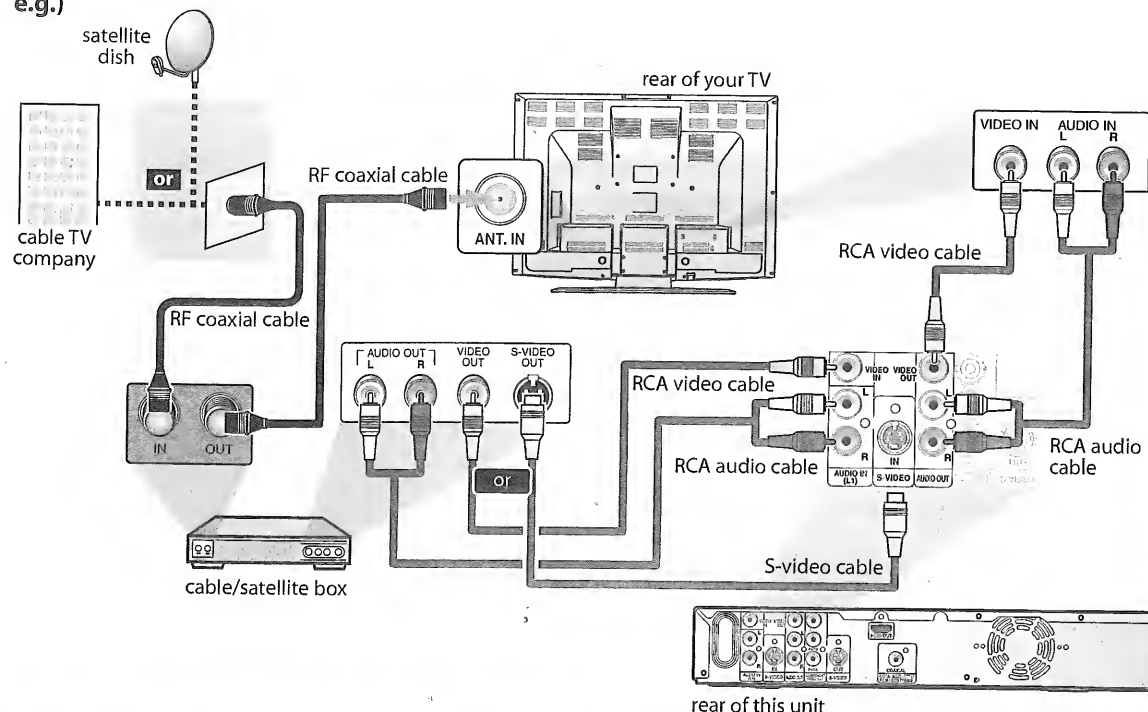


Appears when HDMI output mode (1080p) is selected.

CONNECTION TO A CABLE / SATELLITE BOX

- 1) Disconnect the power cords of the devices from the AC outlet.
- 2) Make the connection as illustrated below.
- 3) Plug in the power cords of the devices to the AC outlet.

e.g.)



Supplied cables used in this connection are as follows:

- RCA audio cable (L/R) x 1
- RCA video cable x 1

Please purchase the rest of the necessary cables at your local store.

Note

- Required cables and connecting methods differ depending on the cable/satellite box. For more information, please contact your cable/satellite provider.
- Instead of using VIDEO OUT jack of this unit, you can also use S-VIDEO OUT jack, COMPONENT VIDEO OUTPUT jack, or HDMI OUT jack (no AUDIO OUT jack connection required) for connecting to your TV.

With this setup:

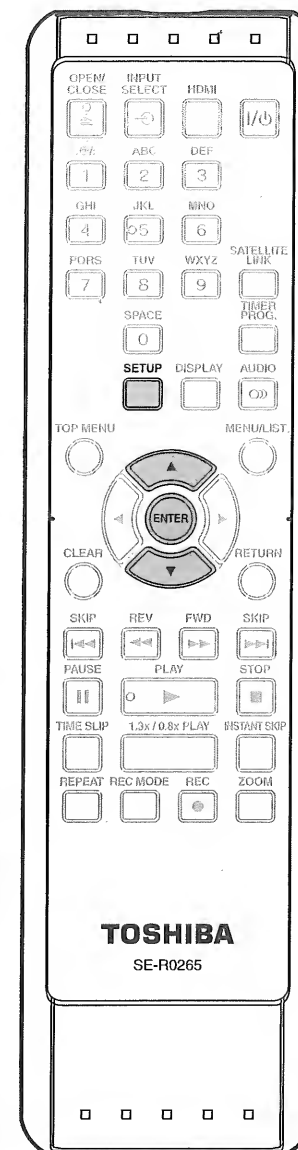
- You can record any unscrambled channel by selecting the channel on the cable/satellite box. Be sure that the cable/satellite box is turned on.
- Signal from the cable/satellite box can be output even when the power of the unit is off.
- **You cannot record one channel while watching another channel.**

Note to CATV system installer

- This reminder is provided to call the cable TV system installer's attention to Article 820-40 of the National Electrical Code, which provides guidelines for proper grounding - in particular, specifying that the cable ground shall

SETTINGS FOR THE VIDEO INPUT

must let the unit know which video input jack you are using before making a recording.



- 1 Press [SETUP] and use [▲ / ▼] to select "General Setting", then press [ENTER].

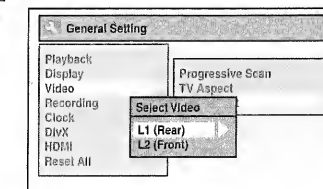
"General Setting" menu will appear.

- 2 Use [▲ / ▼] to select "Video", then press [ENTER].

Submenu will appear.

- 3 Use [▲ / ▼] to select "Select Video", then press [ENTER].

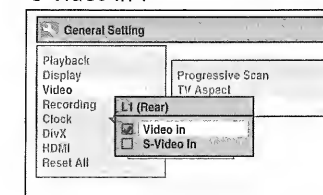
- 4 Use [▲ / ▼] to select desired external input position, then press [ENTER].



- 5 Use [▲ / ▼] to select the input jack type to connect, then press [ENTER].

If you want to use VIDEO IN jack, select "Video In".

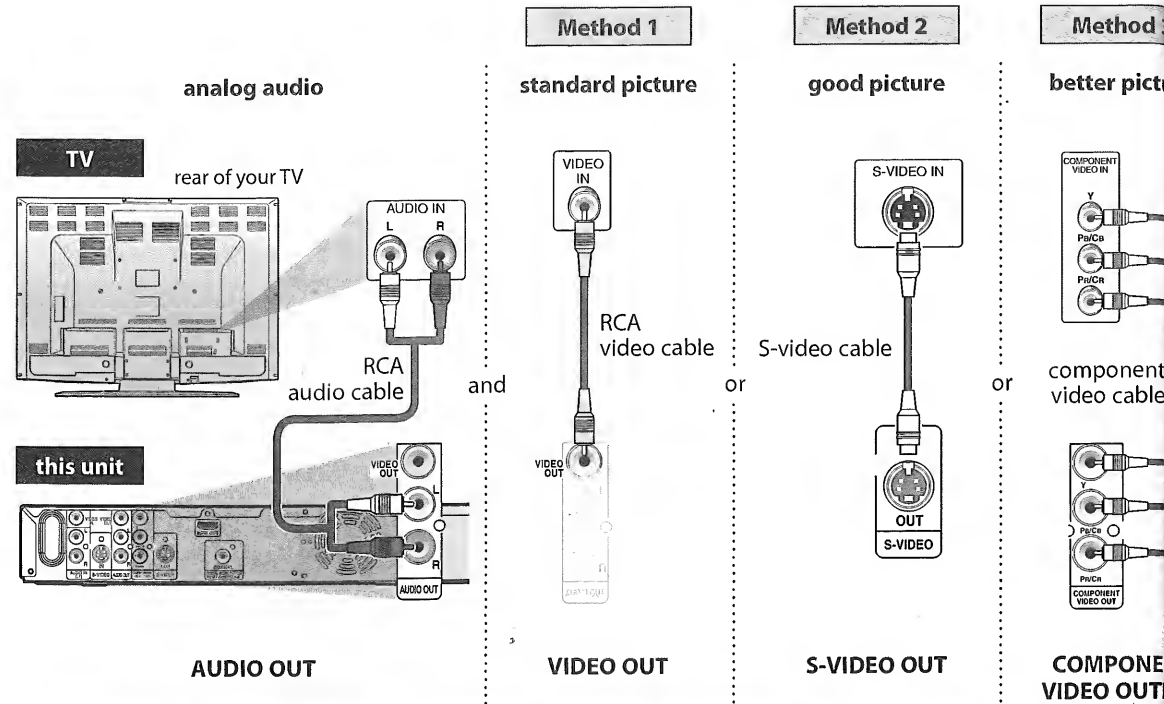
If you want to use S-VIDEO IN jack, select "S-Video In".



- 6 Press [SETUP] to exit.

CONNECTION TO A TV

Make one of the following connections, depending on the capabilities of your display device.



Supplied cables used in this connection are as follows:

- RCA audio cable (L/R) x 1
 - RCA video cable x 1
- Please purchase the rest of the necessary cables at your local store.

After you have completed the connections

- Switch the input selector on your TV to an appropriate external input channel. Press a button on the TV's original remote control that selects an external input channel until the DVD recorder's opening picture appears. Check your TV owner's manual for details.

Note

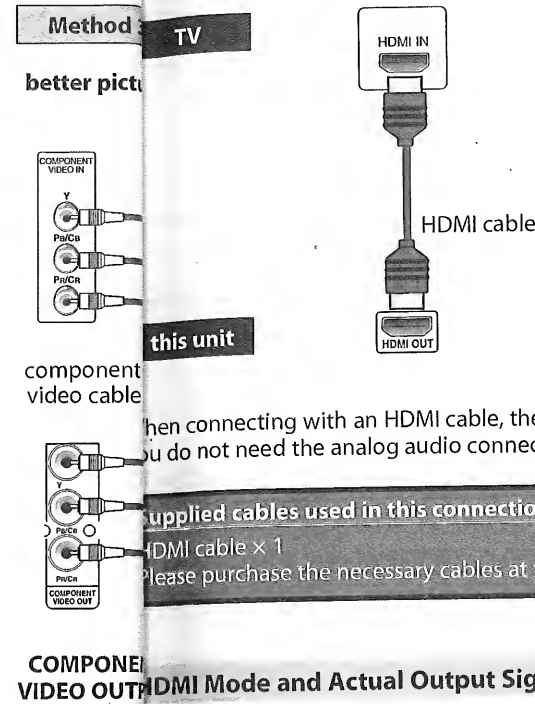
- Connect this unit directly to the TV. If the RCA audio/video cables are connected to a VCR, pictures may be distorted due to the copy protection system.
- **Progressive signal does not output from the VIDEO OUT or S-VIDEO OUT jack.**

To set progressive scan mode, refer to page 91

- This unit is compatible with the progressive scan system. The feature provides you the higher quality images than the traditional output system. To utilize this feature, you must set "Progressive" to "ON".

CONNECTION TO A TV WITH AN HDMI™ COMPATIBLE PORT

A simple 1-cable connection with a device having an HDMI (high-definition multimedia interface) connector allows digital transfer of the digital images of DVD-video and other devices.



When connecting with an HDMI cable, the audio signal will be output as the digital audio signal simultaneously, so you do not need the analog audio connection described on page 20.

Supplied cables used in this connection are as follows:

- HDMI cable x 1
- Please purchase the necessary cables at your local store.

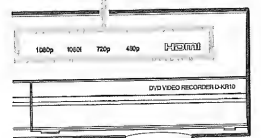
HDMI Mode and Actual Output Signals

Press [HDMI] to select the HDMI output mode. The output mode changes as follows every time [HDMI] is pressed.

Front Panel Display	HDMI Indicator	Video Output Signal
480P	480p	480 Progressive
Press [HDMI] ↓		
720P	720p	720 Progressive
Press [HDMI] ↓		
1080i	1080i	1080 interlaced
Press [HDMI] ↓		
1080P	1080p	1080 Progressive
Press [HDMI]		

- The HDMI mode that is not supported by display device will be skipped.

HDMI indicator



CONNECTION TO A TV WITH AN HDMI™ COMPATIBLE PORT

CONNECTION TO AN AUDIO SYSTEM

Actual Output Modes by Media

Audio recording format of the disc		Dolby Digital setting of this unit	Actual output
DVD-video	Dolby Digital	PCM	2channel PCM
		Stream	Dolby Digital
	LPCM	PCM	2channel PCM
		Stream	
DivX®	Dolby Digital	PCM	2channel PCM
		Stream	Dolby Digital
	MP3 / MP2	PCM	2channel PCM
		Stream	

For audio CD and MP3 / WMA files, 2 channel PCM will be output regardless of the "Dolby Digital" setting.
If the connected device is not compatible with HDMI BITSTREAM, audio will be output as PCM even if you select "Stream" in "Dolby Digital" setting (Refer to page 87).

Copyright protection system

To play back the digital video images of a DVD via an HDMI connection, it is necessary that both the player and the display device (or an AV amplifier) support a copyright protection system called HDCP (high-bandwidth digital content protection system). HDCP is copy protection technology that comprises data encryption and authentication of the connected AV device. This unit supports HDCP. Please read the operating instructions of your display device (or AV amplifier) for more information.

*HDMI: High Definition Multimedia Interface

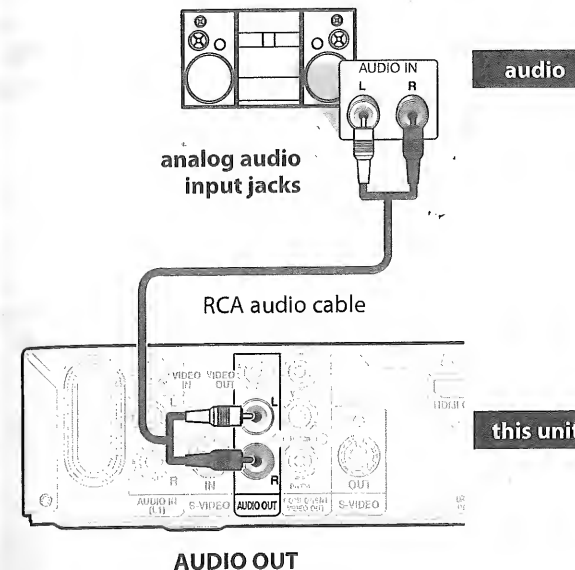
Note

- Because HDMI is an evolving technology, it is possible that some devices with an HDMI input may not operate properly with this unit.
- When using an HDCP-incompatible display device, the image will not be viewed properly.
- Among the devices that support HDMI, some devices can control other devices via the HDMI connector; however, this unit cannot be controlled by another device vice the HDMI connector.
- The audio signals from the HDMI connector (including the sampling frequency, the number of channels and bit length) maybe limited by the device that is connected.
- Among the monitors that support HDMI, some do not support audio output (for example, projectors). In connections with device such as this unit, audio signals are not output from the HDMI output connector.
- When this unit's HDMI connector is connected to a DVI-D compatible monitor (HDCP compatible) with an HDMI-DVI converter cable, the signals are output in digital RGB.
- If the connected equipment is not compatible with HDMI BITSTREAM, DTS sound will not be output.
- When the power failure occurs, or when you unplug the unit, some problems in the HDMI setting might occur. Please check and set the HDMI setting again.

When you change the connections, all devices should be turned off.
Refer to the owner's manual accompanying external devices for more information.

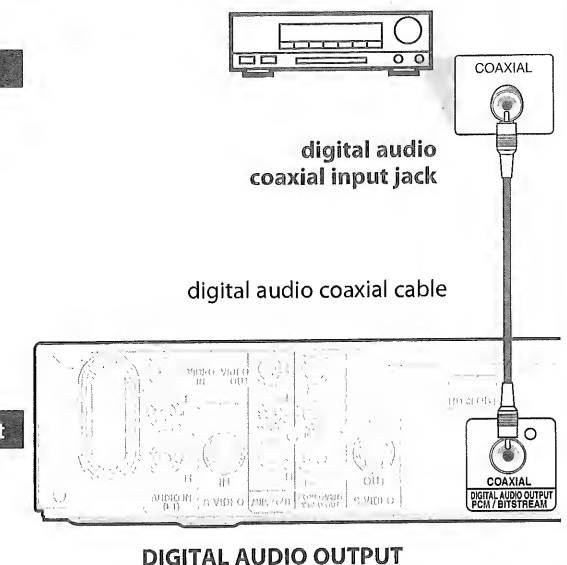
Playing Back 2 Channel Analog Audio

stereo system



Playing Back Multi Channel Digital Audio

Dolby Digital decoder, DTS decoder



*MD deck or DAT deck can be also connected through coaxial jack.

Supplied cables used in this connection are as follows:

RCA audio cable (L/R) x 1
Please purchase the rest of the necessary cables at your local store.

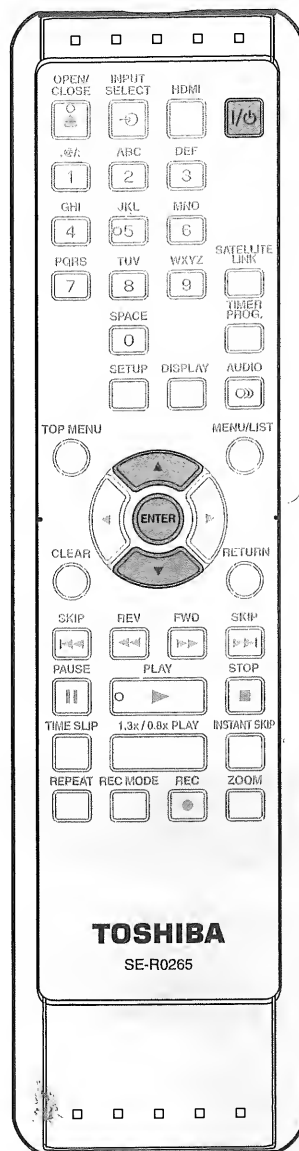
Multi Channel Digital Audio Setting

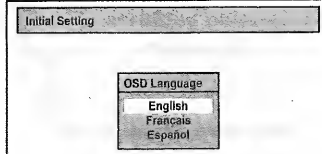
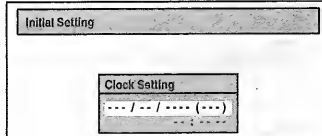
Setting	Setup > General Setting > Playback > Audio Out >	
	Dolby Digital	DTS
output is Dolby Digital encoded audio, connect to Dolby Digital decoder.	Stream	OFF
output is DTS encoded audio, connect to a DTS decoder.	PCM	ON
output is encoded audio for both Dolby Digital and DTS, connect to the decoder which encodes multiple audio sources.	Stream	ON
connecting to an MD deck or DAT deck.	PCM	OFF
not connected to any external devices.	PCM	OFF

To complete these settings, refer to page 87.

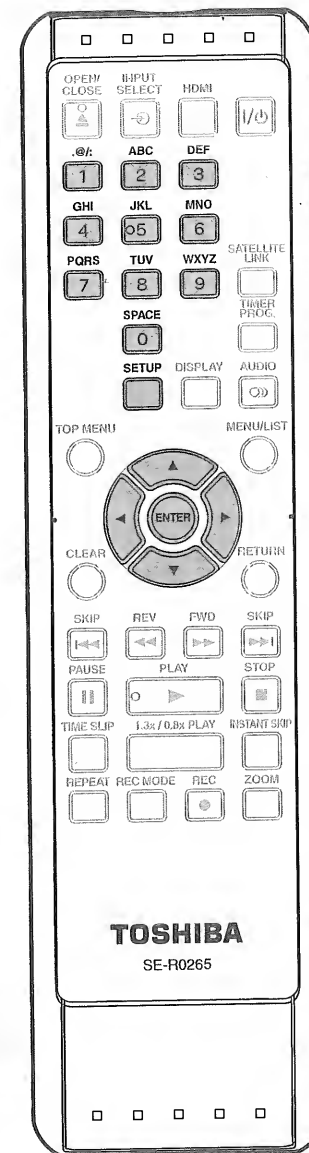
INITIAL SETTING

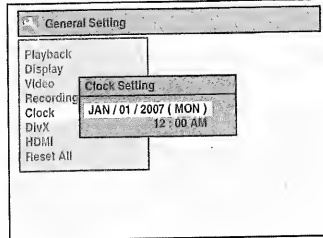
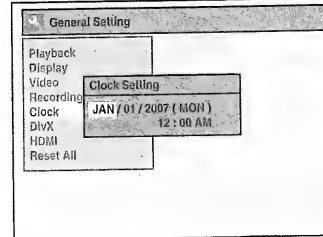
Turn on this unit for the first time, you need to follow these steps.



- 1** Press [I/⏻ ON/STANDBY].
Before:
Turn the TV on. Select the input to which the unit is connected.
- 2** Use [▲ / ▼] to select your desired language, then press [ENTER] to set language.

- 3** Press [ENTER] to activate "Clock Setting".

- 4** Proceed to step 4 in "CLOCK SETTING" on page 25.

CLOCK SETTING



- 1** Press [SETUP] and use [▲ / ▼] to select "General Setting", then press [ENTER].
- 2** Use [▲ / ▼] to select "Clock", then press [ENTER].
- 3** Use [▲ / ▼] to select calendar or time, then press [ENTER].

- 4** Use [◀ / ▶] to select an item to set, and use [▲ / ▼] to select the contents to suit your preference, then press [ENTER].

- 5** Press [SETUP] to exit.

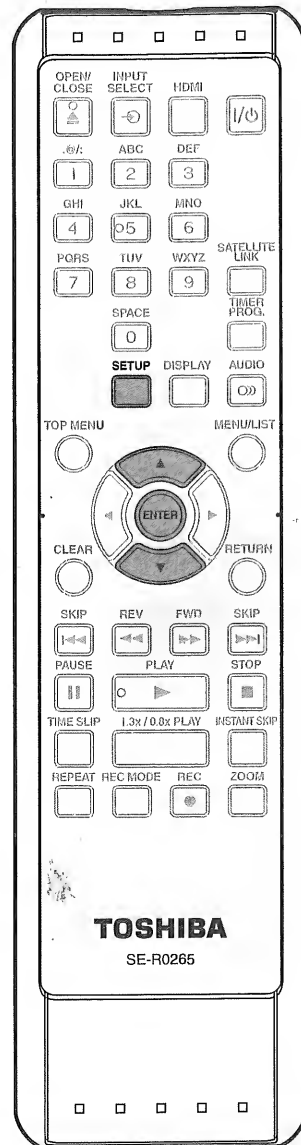
Your setting will be activated.
The clock start counting when you press [ENTER].

FORMATTING A DISC

Choosing the Recording Format of a Brand-New DVD-RW



When inserting a brand-new DVD-RW or DVD+RW, the unit automatically starts to initialize the disc. DVD+RW will always be formatted in +VR mode, and DVD-RW will be formatted either video or VR mode according to the recording format mode setting of the unit. Before insert a brand-new DVD-RW, you need to set the recording format to the desired mode. You can also manually format a DVD-RW once it has been used.



- 1 Press [SETUP].
- 2 Use [▲ / ▼] to select "DVD Menu", then press [ENTER].
- 3 Use [▲ / ▼] to select "Format", then press [ENTER].
- 4 Use [▲ / ▼] to select "Format Mode", then press [ENTER].
- 5 Use [▲ / ▼] to select "Video mode" or "VR mode", then press [ENTER].
- 6 Press [SETUP] to exit.
- 7 Insert a brand-new disc. Formatting will start.

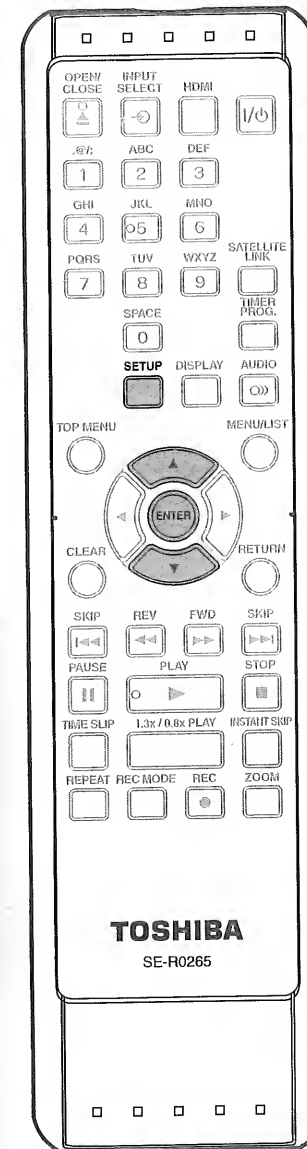
Formatting 90%

FORMATTING A DISC

Reformatting a Disc Manually

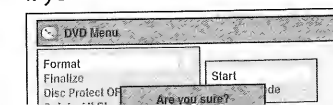


If you are using a DVD-RW or DVD+RW, you can format the disc by performing "Format". You can format DVD-RW for either video mode recording or VR mode recording. DVD+RW can be format in order to erase all content of the disc.



Insert a recordable disc.

- 1 Press [SETUP].
- 2 Use [▲ / ▼] to select "DVD Menu", then press [ENTER].
- 3 Use [▲ / ▼] to select "Format", then press [ENTER].
e.g.) VR mode DVD-RW
- 4 Use [▲ / ▼] to select "Start", then press [ENTER].
Selection menu will appear and prompt you to confirm.
• For DVD+RW, use [▲ / ▼] to select "Yes", then press [ENTER].
- 5 Use [▲ / ▼] to select "Yes", then press [ENTER].
Formatting will start.
If you want to cancel formatting, select "No".



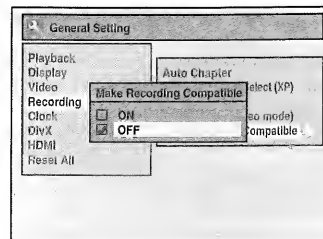
PREPARING A DISC

Make Recording Compatible



Use this feature to make the discs recorded on other unit recordable on this unit. When you make an additional recording on this unit with "Make Recording Compatible" set to "ON", the title menu is automatically converted to our style.

- 1) Press [SETUP] and use [▲ / ▼] to select "General Setting", then press [ENTER].
- 2) Use [▲ / ▼] to select "Recording", then press [ENTER].
"Recording" menu will appear.
- 3) Use [▲ / ▼] to select "Make Recording Compatible", then press [ENTER].
- 4) Use [▲ / ▼] to select "ON" or "OFF", then press [ENTER].



- ON:** Title list will be replaced when you make additional recordings to the discs recorded by other units.
- OFF:** Prohibiting additional record to the disc that has a title list created by other units.

- 5) Press [SETUP] to exit.

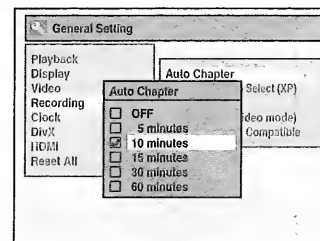
Note

- This function is also available for unfinalized DVD+R.

Setting for Auto Chapter

You can set a specified time for chapter marks.

- 1) Press [SETUP] and use [▲ / ▼] to select "General Setting", then press [ENTER].
- 2) Use [▲ / ▼] to select "Recording", then press [ENTER].
"Recording" menu will appear.
- 3) Use [▲ / ▼] to select "Auto Chapter", then press [ENTER].
- 4) Use [▲ / ▼] to select a desired time option, then press [ENTER].



- 5) Press [SETUP] to exit.

Note

- The interval for auto chapter marks may slightly differ.
- A blank chapter may be created depending on the remaining time of the disc.

PREPARING A DISC

Recording Audio Select (XP)

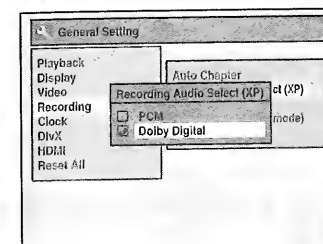
You can enjoy high quality sound recording. This function works only when the recording mode is set at XP.

- 1) Press [SETUP] and use [▲ / ▼] to select "General Setting", then press [ENTER].

Use [▲ / ▼] to select "Recording", then press [ENTER].
"Recording" menu will appear.

Use [▲ / ▼] to select "Recording Audio Select (XP)", then press [ENTER].

Use [▲ / ▼] to select "PCM" or "Dolby Digital", then press [ENTER].



PCM:

Records PCM audio for the best quality sound.

Dolby Digital:

Records Dolby Digital audio for good quality sound.

Press [SETUP] to exit.

Note

"PCM" stands for Pulse Code Modulation. It changes analog sound to digital sound without compressing audio data.

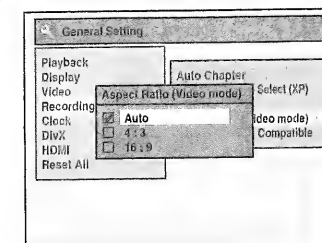
When the recording mode is set at other than XP, the unit records "Dolby Digital" audio automatically even if you selected "PCM".

Setting Aspect Ratio for Video Mode Recording



You can set aspect ratio for video mode recording.

- 1) Follow step 1 to 2 on "Recording Audio Select(XP)".
- 2) Use [▲ / ▼] to select "Aspect Ratio (Video mode)", then press [ENTER].
- 3) Use [▲ / ▼] to select your desired setting, then press [ENTER].



Auto (default): It will be recorded with whichever the ratio that the program you started to record are broadcasted with.

4:3 : Recorded in the aspect ratio of 4:3.

16:9 : Recorded in the aspect ratio of 16:9.

- 4) Press [SETUP] to exit.

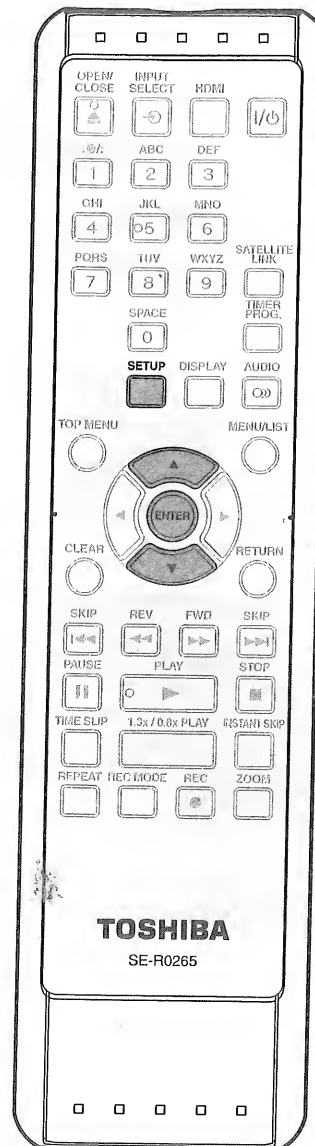
Note

- For DVD-RW VR mode, the image will be recorded in whichever the ratio that the program you record are broadcasted with, regardless of the "Aspect Ratio (Video mode)" setting.
- For DVD+RW/+R, the image will always be recorded in aspect ratio of 4:3.

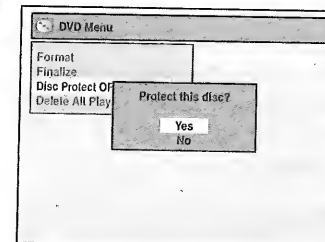
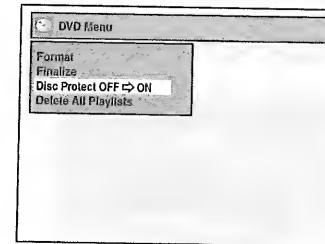
SETTING A DISC TO PROTECT



To prevent accidental recording, editing or erasing the titles, you can protect them from "DVD Menu".



- 1 Press [SETUP].
- 2 Use [▲ / ▼] to select "DVD Menu", then press [ENTER].
- 3 Use [▲ / ▼] to select "Disc Protect OFF → ON", then press [ENTER].
e.g.) VR mode DVD-RW
- 4 Use [▲ / ▼] to select "Yes", then press [ENTER].



A disc will be protected.

This operation may take awhile to be completed.

Note

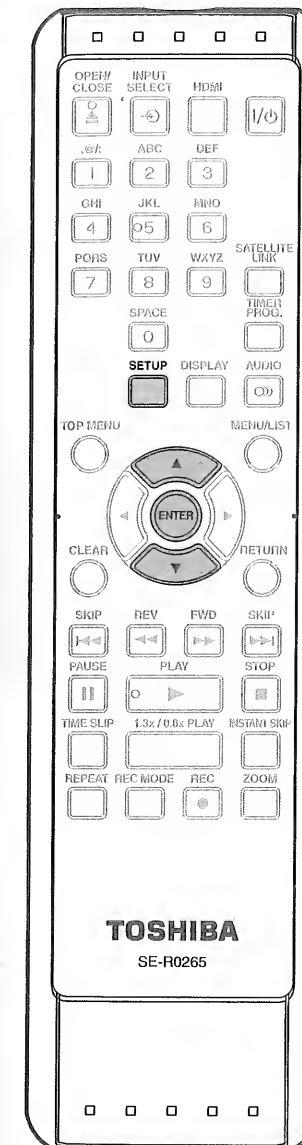
To cancel the disc protection...

PLAYING THE DISCS IN OTHER DVD PLAYERS

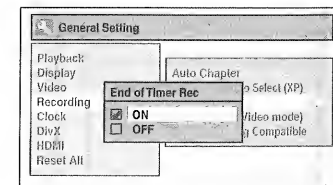
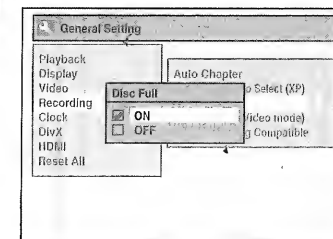
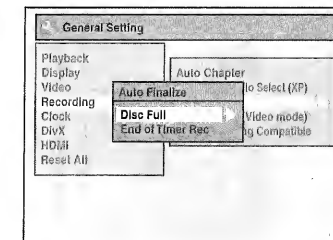
Auto Finalizing



You can finalize discs automatically using this function. You can use this function to finalize discs after finishing timer recordings and at the end of the disc space.



- 1 Press [SETUP] and use [▲ / ▼] to select "General Setting", then press [ENTER].
"General Setting" menu will appear.
- 2 Use [▲ / ▼] to select "Recording", then press [ENTER].
"Recording" menu will appear.
- 3 Use [▲ / ▼] to select "Auto Finalize", then press [ENTER].
- 4 Use [▲ / ▼] to select "Disc Full" or "End of Timer Rec", then press [ENTER].
- 5 Use [▲ / ▼] to select "ON", then press [ENTER].



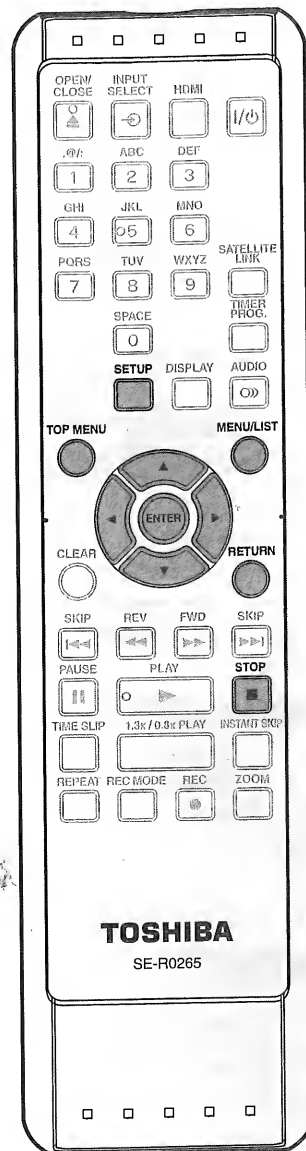
PLAYING THE DISCS IN OTHER DVD PLAYERS

Finalizing a Disc

You will need to finalize discs to play back on other DVD players.

Finalizing may take several minutes up to an hour.

Since the process of the finalization fills empty space of the disc, a shorter recording period on the disc will require a longer time period for finalization. Do not unplug the power cord during finalization.



1

Press **[SETUP]**.

2

Use **[▲ / ▼]** to select "DVD Menu", then press **[ENTER]**.

"DVD Menu" will appear.

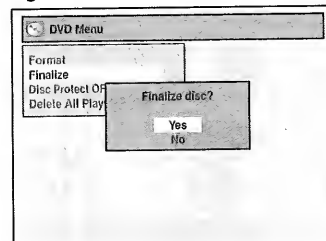
3

Use **[▲ / ▼]** to select "Finalize", then press **[ENTER]**.

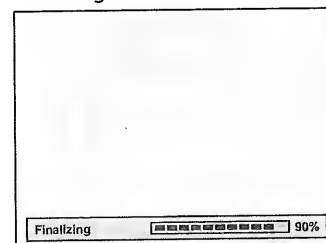
4

Use **[▲ / ▼]** to select "Yes", then press **[ENTER]**.

e.g.) VR mode DVD-RW



Finalizing will start.



This operation may take awhile to be completed.

5

Finalizing is completed.

PLAYING THE DISCS IN OTHER DVD PLAYERS

Note

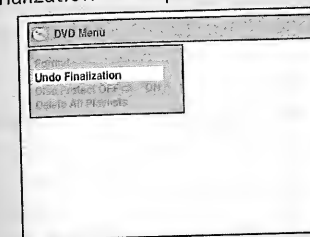
Finalizing a disc in video mode and +VR mode automatically creates a DVD menu.

After you finalize the DVD+RW, you can call up the title list by pressing **[TOP MENU]**, or you can call up the DVD menu by pressing **[MENU/LIST]**.

Even after DVD+RW is finalized, you can still record or edit. After you finalize DVD-RW/-R or DVD+R, you cannot edit or record anything else on that disc.

If you insert a DVD-RW finalized with this unit, "Undo Finalization" will appear instead of "Finalize" at step 3.

To release the finalization of the DVD-RW disc, select "Undo Finalization" at step 3.

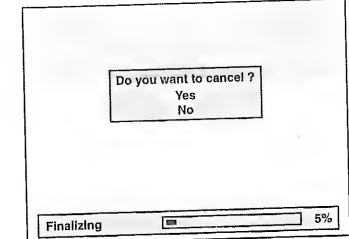


To undo the finalization of the DVD+RW, make an additional recording to the disc.
DO NOT power off during finalizing. This may result in a malfunction.

For DVD+RW, if you have added or deleted chapters, or made chapters hidden, you must finalize the disc before being able to see those effects on other units. To play back discs other than DVD+RW on other DVD players, you will need to finalize.

To cancel finalizing... (DVD-RW only)

Press **[STOP ■]** during the finalizing is in progress. Use **[▲ / ▼]** to select "Yes", then press **[ENTER]**. Finalizing is canceled and the unit switches to stop mode.



If "⊗" appears when **[STOP ■]** is pressed, you cannot cancel finalizing because the finalizing has already reached at a critical point in its process.

If "No" is selected and **[ENTER]** or **[RETURN]** is pressed, finalizing is continued.

You cannot cancel finalizing a DVD-R, DVD+R and DVD+RW once it has started.

INFORMATION ON DVD RECORDING BASIC RECORDING & ONE-TOUCH TIMER RECORDING

Recording Mode

You can select a recording mode among 5 options, and the recording time will depend on the recording mode you select as follows.

Recording mode	Recording time		Video/ Sound Quality
	12cm	8cm	
XP	60 min	18 min	☆☆☆☆☆
SP	120 min	36 min	☆☆☆☆
LP	240 min	72 min	☆☆☆
EP	360 min	108 min	☆☆
SLP	480 min	144 min	☆

- The recording times listed above are estimates and are for reference purposes only. Actual recording times may vary.
- The audio and video quality of content being recorded may differ depending on the recording mode/recording time chosen.

Note

- **This unit cannot record to CD-RW or CD-R.**
- DVD-RW/-R, DVD+RW/+R and CD-RW/-R recorded on a personal computer or a DVD or CD recorder may not be played back if the disc is damaged or dirty or if there is condensation on the player's lens.
- If you record a disc using a personal computer, even if it is recorded in a compatible format it may not be played back because of the settings of the application software used to create the disc. (Check with the software publisher for more detailed information.)
- Discs recorded in video mode on this unit cannot record additional information using other DVD recorders.
- It is not possible to use a DVD-RW/DVD+RW formatted with this unit on other DVD recorder unless the content of the disc was also recorded with this unit.
- Since the recording is made by the VBR (variable bit rate) method, depending on the picture you are recording, the actual remaining time for recording may be a little shorter than the remaining time displayed on the TV screen.

Restrictions on Recording

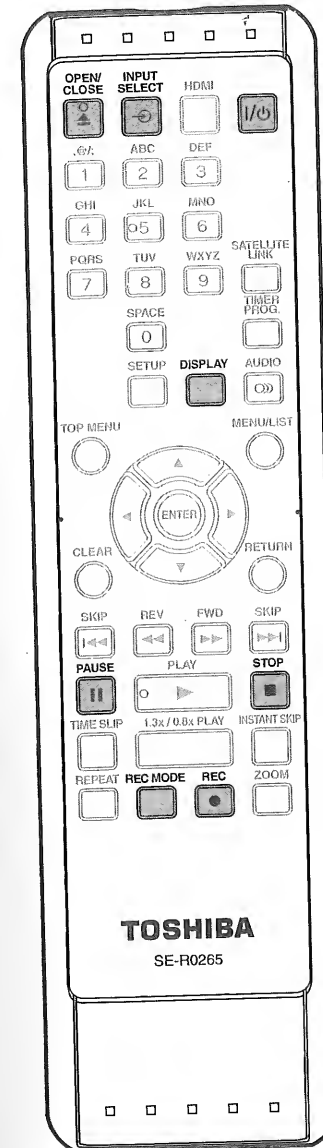
You cannot record copy-protected video using this unit. Copy-protected video includes DVD-videos and some satellite broadcasts, some pay-per-view stations and some "premium" stations. If copy-protected material is detected, recording will pause or stop automatically and an error message appears on the screen. "Copy-once only" video can only be recorded to CPRM compatible DVD-RW formatted in VR mode.

What is "CPRM"?

CPRM is a copy protection system with scramble system regarding the recording of "copy-once" broadcast programs. CPRM stands for Content Protection for Recordable Media. This unit is CPRM compatible, which means that you can record copy-once broadcast programs, but you cannot make another copy of those recordings. CPRM recordings can only be made on CPRM compatible DVD-RW formatted in VR mode, and CPRM recordings can only be played back on DVD players that are specifically compatible with CPRM.

Making discs playable in other DVD players(Finalize)
For DVD-RW/-R, it is necessary to finalize the disc after recording, in order to play back the disc on other DVD players. (Refer to page 31.) For DVD+RW/+R, it is recommended to finalize the disc in order to make the disc more compatible to other DVD player. When video and +VR mode discs are finalized, a DVD menu is created. You cannot finalize discs in other DVD recorders.

Follow the steps to record TV programs.



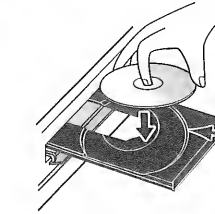
1

Press [I/O ON/STANDBY].

Turn on the TV and be sure to select the input to which the unit is connected.

2

Press [OPEN/CLOSE ▲] to open the disc tray and insert your disc with its label facing up.



Align the disc to the disc tray guide.

3

Press [OPEN/CLOSE ▲] to close the disc tray.

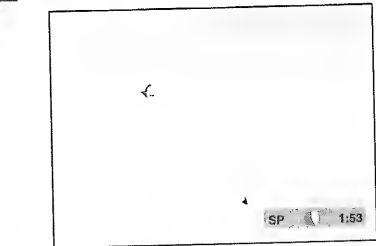
It may take awhile to load the disc completely.

- When inserting a brand-new DVD-RW or DVD+RW, the unit automatically starts to format.
- If titles have been recorded on the disc, the title list is displayed. Press [STOP ■] to exit the title list.

4

Press [REC MODE] to select a recording mode.

Refer to "Recording Mode" on page 34.

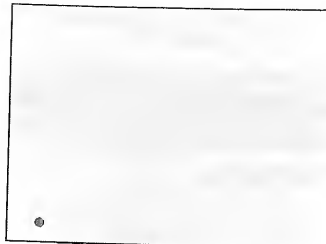


5

Press [INPUT SELECT ◉] to select the appropriate external input position (L1/L2) to which your cable/satellite box is connected. Then select the desired channel to record on the cable/satellite box.

BASIC RECORDING & ONE-TOUCH TIMER RECORDING

6 Press [REC ●] to start recording.
"●" will be displayed for 5 seconds.

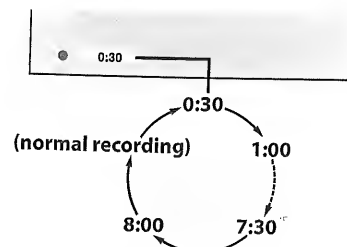


Press [PAUSE III] to pause recording.
Press [PAUSE III] or [REC ●] again to restart recording.

To set one-touch timer recording (OTR)...

This is a simple way to set the recording time in blocks of 30 minutes.

Press [REC ●] repeatedly until the desired recording time (30 minutes to 8 hours) appears on the TV screen. One-touch timer recording will start.



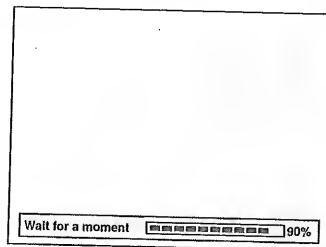
- To change the recording length during one-touch timer recording, press [REC ●] repeatedly until the desired length appears.
- To cancel one-touch timer recording within the specified time, press [STOP ■].

Note

- When you press [REC ●], recording starts immediately and continues until the disc is full or you stop recording.
- When the unit clock has not been set, the space for a date and time of title names will be blank.
- You cannot change the recording mode during the recording pause mode.

Note for one-touch timer recording

7 Press [STOP ■] to stop recording.
The recorded title will be included in the title list.
(Refer to "Guide to a Title List" on page 68.)



This operation may take awhile to be completed.

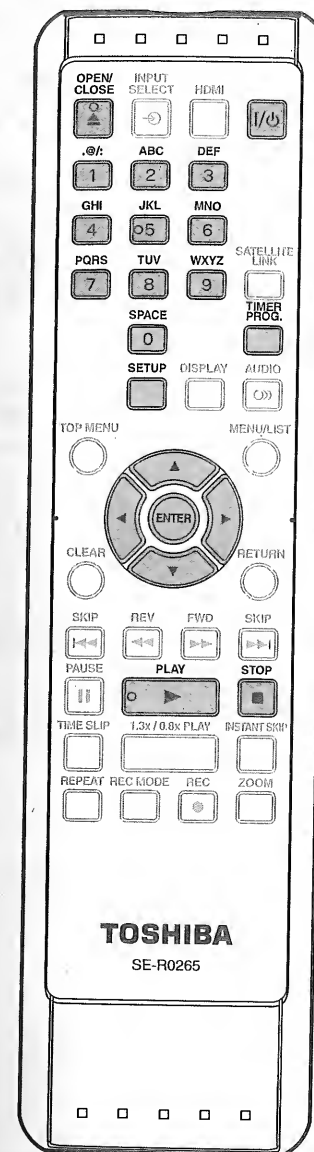
TIMER RECORDING

You can program the unit to record up to 12 programs in a month in advance. Daily or weekly program recordings are also available.

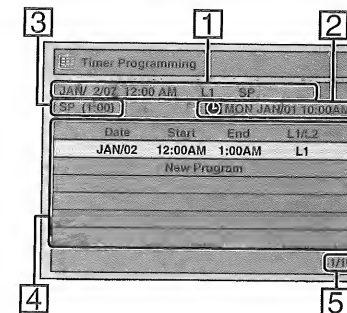
Before recording, make sure

the clock before setting a timer programming.

Insert a recordable disc with enough recordable space.



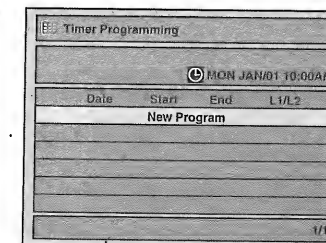
Guide to Timer Programming Display



1. Title of a timer program (Contains date, time, external input, recording mode of the program)
2. Current date and time
3. Recording mode and length of the recording
4. Timer program list
5. Total number of pages and current page (2 pages maximum)

1 Press [TIMER PROG.].

2 Use [▲ / ▼] to select "New Program", then press [ENTER].



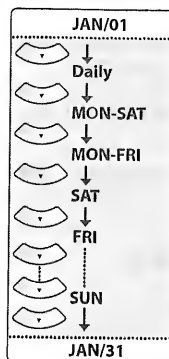
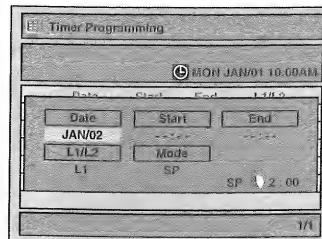
- If there are 6 or more programs, use [SKIP ◀◀ / ▶▶] to change pages.

Note

If you have not set the clock yet:

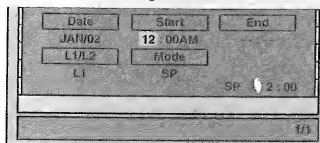
TIMER RECORDING

- 3** Use [▲ / ▼] to enter the date, then press [▶].

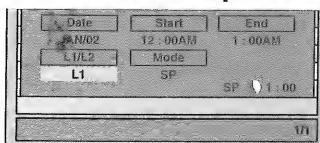


When pressing [▼] at the current date, the date will change as follows.
e.g.) January 1st

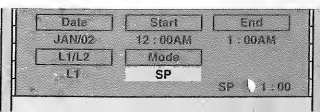
- 4** Use [▲ / ▼ / ◀ / ▶] or [the Number buttons] to enter the start and end time, then press [▶].



- 5** Use [▲ / ▼] to select the appropriate external input position (L1/L2) to which your cable/satellite box is connected, then press [▶].

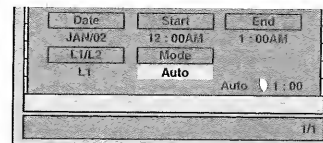


- 6** Use [▲ / ▼] to select a recording mode.



Auto recording mode select...

When "Auto" is selected as a recording mode, the unit calculates how much time is available on the disc and determines the appropriate recording mode to complete recording the program.



- "Auto" is only available for one program in the timer program list.
- The recording may be cut short, when the available recording space of the disc is too limited.

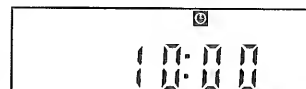
7 Press [ENTER] when all items are entered.

Your program setting will be stored.

- To set another program, repeat steps 2 to 6.
- To exit, press [TIMER PROG.] or [SETUP].
- When 2 or more programs are overlapped, "Timer program overlapped" appears, and overlapped program will be displayed in red. To correct the timer program refer to "Checking, canceling, or correcting the timer programming information" on page 39.

8 Press [I/O ON/STANDBY] to set a timer programming.

Ⓢ indicator will appear on the front panel display while this unit waits to make the recording.



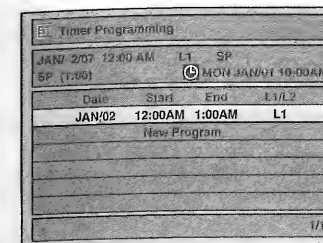
TIMER RECORDING

Checking, canceling, or correcting the timer programming information

press [I/O ON/STANDBY].

press [TIMER PROG.].

check the information on the list you want to edit.



To delete the timer program:

- 1 Use [▲ / ▼] to select the program you want to delete, then press [ENTER].

- 2 Use [▲ / ▼] to select "Delete", then press [ENTER].

Selection menu will appear.

- 3 Use [▲ / ▼] to select "Yes", then press [ENTER].

To correct the timer program:

- 1 Use [▲ / ▼] to select the program you want to correct, then press [ENTER].

- 2 Use [▲ / ▼] to select "Program Change", then press [ENTER].

- 3 Correct the timer program by using [▲ / ▼ / ◀ / ▶], then press [ENTER].

press [TIMER PROG.] to exit.

press [I/O ON/STANDBY] to return to the timer standby mode.

stop the timer recording in process

press [STOP ■] on the front panel of the unit.

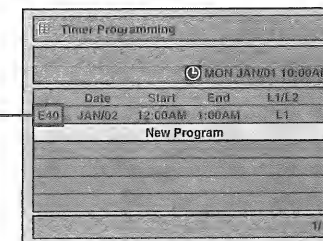
[STOP ■] on the remote control is not effective.

Note

press [TIMER PROG.] to check the timer recording in progress.

When the timer recording is proceeding, that program will be highlighted with red. In this case, you cannot select any other program.

If the timer program did not complete correctly, the error number appears in the timer programming list.



Each error number means:

E1-22 E37-39	Recording error other than below	E40	Some portion has not been recorded because of program overlapping. Recording did not start at the start time.
E23-24	Unrecordable disc	E41	Power failed
E25-28	Copy prohibited program	E42	No disc when recording
E29	Disc protected	E43	Already 49 titles recorded
E30	Disc full	E44	Already 254 chapters recorded
E31-32	Already 99 titles recorded	E45	Copy prohibited program
E33	Already 999 chapters recorded	E46	It is impossible to record additionally on a disc recorded by other units when setting "Make Recording Compatible" to "OFF".
E34	No space for Control information		
E35	PCA full *1		
E36	Already finalized video format disc		

• A program with the error number is grayed in the timer programming list.

• Once the timer programming list with error line(s) is displayed, or after canceling and setting again the timer standby mode, the program line(s) with error will be cleared.

*1 PCA is a disc's space reserved for recording test.

TIMER RECORDING

Hints for Timer Recording

- If there is a power failure or this unit has been unplugged for more than 30 seconds, the clock setting and all timer programming will be lost.
- If a disc is not inserted, flashes and timer recording cannot be performed. In some cases, will appear momentarily around the start point as the unit attempts to record. Please insert a recordable disc.
- When all the timer recording is completed, flashes. To play back or eject the recorded disc, press **[II/O ON/STANDBY]** first, then select the recorded title and press **[PLAY ▶]**, or **[OPEN/CLOSE ▲]** to remove the disc.
- During timer recording or timer standby mode (will appear), any operations on the unit will not be available. To make these operations available, press **[STOP ■]** on the front panel to cancel the timer recording or **[II/O ON/STANDBY]** to release timer standby mode (will disappear).
- To cancel the timer standby mode, press **[II/O ON/STANDBY]**.
- When the starting and the ending time are the same, the length of the recording will be set for 24 hours. When the disc becomes full during the recording, the unit turns itself off.
- When the programmed starting and ending time are earlier than the current time, the setting will not be accepted and be cleared for redoing.
- If the starting time is earlier and the ending time is later than the current time, the recording will start right after turn the power off.

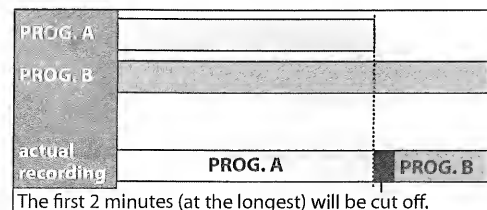
The Priority of Overlapped Settings

This unit records the programs according to priority if the timer programmings are overlapped. The timer programming set previously has priority.

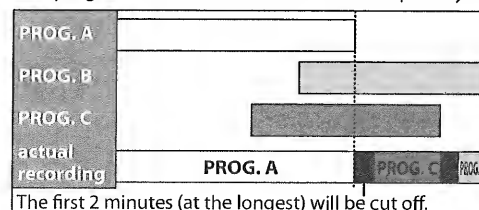
A timer recording of lower priority will be canceled or start from the middle.

Check the overlapped timer programmings and change the priority if necessary.

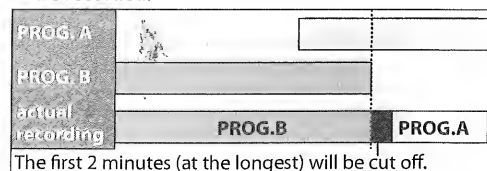
- **When the starting time is the same:**
A program set previously (PROG. A) has priority.



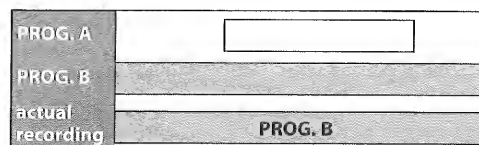
- **When the starting time and the ending time for each programs are different:**
A program that has earlier start time has priority.



- **When the recording time is partially overlapped:**
PROG. A will start after PROG. B is complete to be recorded.



- **When the recording time is entirely overlapped:**
PROG. A will not be recorded.



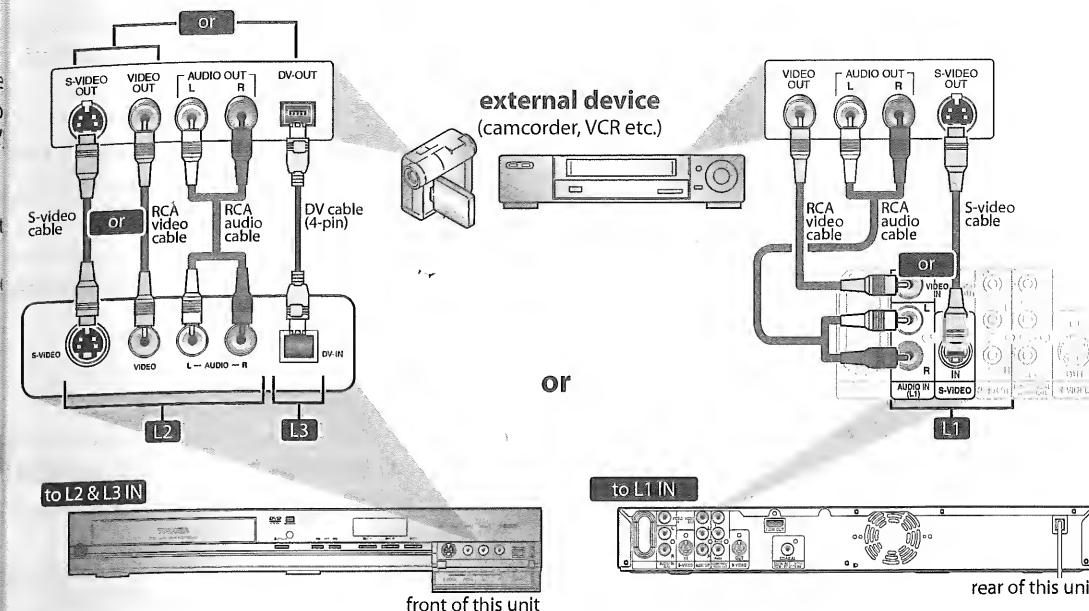
Note for DVD recording

- When the recording time of 2 programs are overlapped, or the end time of a program and the start time of another
- **When the end time of the programming currently being recorded and the start time**

SETTINGS FOR AN EXTERNAL DEVICE

Connection to an External Device

Connect the external device properly to either L2 (front) or L1 (rear) input jacks of this unit by using S-video or RCA video / audio cables. If you are connecting a DVC (digital video camcorder), connect it to L3 (front) by using DV cable.



If you use L2 or L1 connection, make sure to select the appropriate video input type by following the steps in "SETTINGS FOR THE VIDEO INPUT" on page 19.

Applied cables used in this connection are as follows:

- RCA audio cable (L/R) x 1
 - RCA video cable x 1
- Please purchase the rest of the necessary cables at your local store.

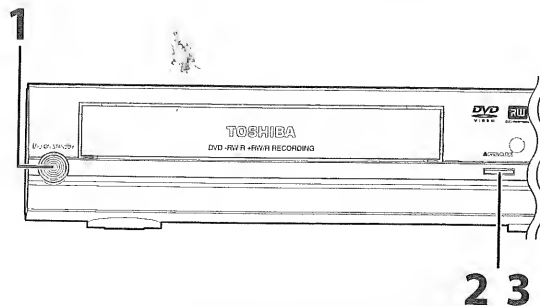
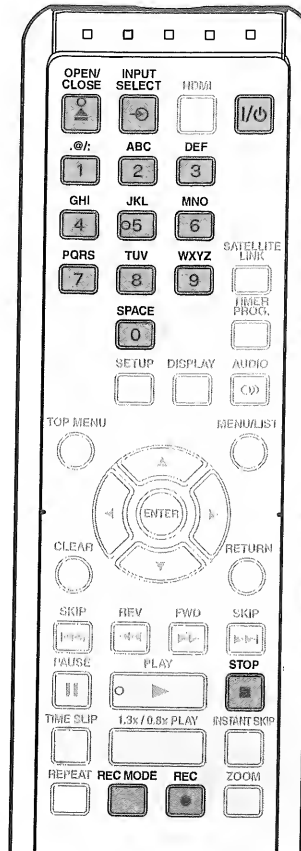
Note

When connecting an external device of monaural output to this unit, use AUDIO L jack of L2 (Front). You must first select the desired audio from the external device before recording. You are not allowed to select audio left or audio right during playback of self-recording discs.

SETTINGS FOR AN EXTERNAL DEVICE

Recording from an External Device

Before recording from an external device, refer to the instructions for the connection on page 41.



1 Turn on the TV and press [I/O ON/STANDBY], and be sure to select the input of the TV to which the unit is connected.

2 Press [OPEN/CLOSE ▲] to open the disc tray. Place the disc to record properly.

3 Press [OPEN/CLOSE ▲] to close the disc tray.

It takes awhile to load the disc.

4 Select the input of the unit which external device is connected. (L1, or L3)

- To use the input jacks on the rear of this unit, Select "L1" by using [INPUT SELECT -].
- To use the input jacks on the front of this unit, Select "L2" or "DV" by using [INPUT SELECT -].

5 Press [REC MODE] to select a recording mode. Refer to "Recording Mode" on page 34.

XP (1Hr) → SP (2Hr) → LP (4Hr) → EP (6Hr) → SLP (8Hr)

6 Press [REC ●] on the unit to start recording.

7 Start playback on the external device to record from.

8 Press [STOP ■] on the unit to stop recording.

This operation may take awhile to be completed.

SATELLITE LINK

You can set the unit to start recording whenever it detects the video signal from the external tuner.

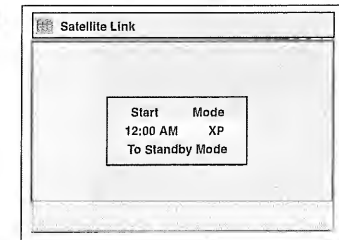
Preparing for the satellite link timer recording:
Preparation on the tuner

The external tuner should be equipped with some kind of timer function. Using timer function of the tuner, set to output audio/video signals when it comes to the time you want to start recording, and stop output audio/video signals when it comes to the time you want to finish recording. Refer to the tuner's manual on how to set the timer.

Make sure to set the satellite link standby mode when you finish setting.

1 Press [SATELLITE LINK].

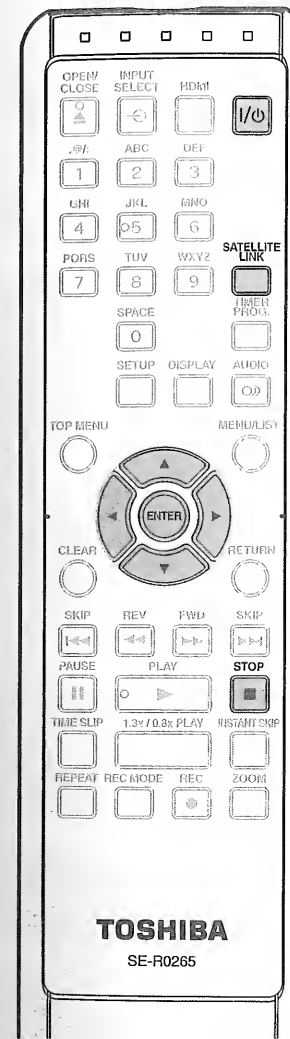
2 Use [▲ / ▼] to select the time and recording mode, then press [ENTER].



3 Use [▲ / ▼] or [the Number buttons] to set the desired starting time, then press [▶].

- The hour can be selected from 1 to 12 with AM or PM.
- Repeat procedures in this step to set the desired minutes.
- If you wish to go back to the left, press [◀].

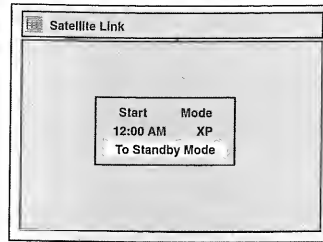
4 Use [▲ / ▼] to select the recording mode. Refer to page 34 for details.



SATELLITE LINK

5 Press [ENTER].
"To Standby Mode" is highlighted.

6 Press [ENTER] again.



In a second, the unit will be turned off automatically as it goes into the satellite link standby mode.

To cancel the satellite link function while in the satellite link standby mode:

Press [I/O ON/STANDBY] to turn on the unit.

To cancel the satellite link function while the satellite link recording is in progress:

Press [STOP ■] on the front panel of the unit.

Note

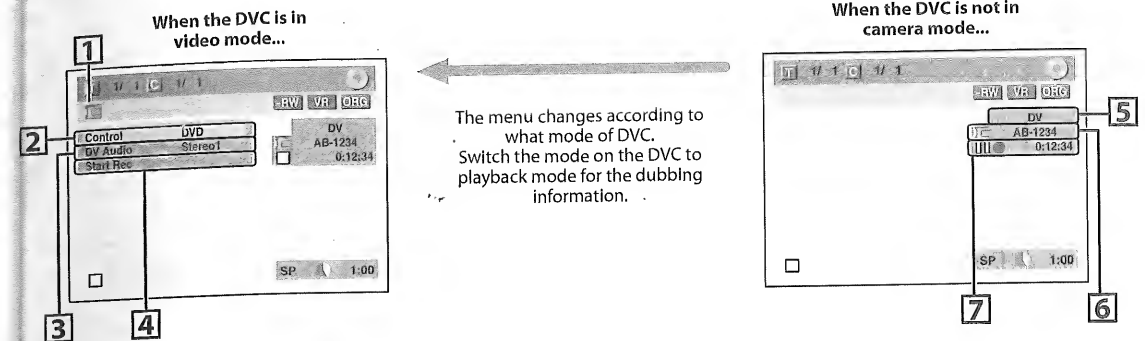
- If the signal of external input breaks up over 5 seconds, satellite link function will be canceled.
- If you have not set the clock, "Clock Setting" menu will appear at step 1. Follow to step 3 in "CLOCK SETTING" on page 25.
- You cannot set the end time for the satellite link timer recording on this unit.
- Recording picture will be distorted if the copy protection signal is being detected during satellite link timer recording.
- You can record the satellite link by using S-video input jacks on the rear panel. Refer to page 41 for more information.
- Press [TIMER PROG.] during the satellite link timer recording to check the satellite link timer recording in progress.
- When a regular timer recording and the satellite link timer recording are overlapped, those recordings are

DV DUBBING

Guide to DV and On-Screen Display

This function helps you to easily dub the contents of the DVC (digital video camcorder) to DVD.

You can control basic operations of the DVC from the remote control of this unit such as playback, fast forward or reverse and stop all operations if the DVC is in video mode. Use the DV cable that has 4-pin input jack and is compliant with the IEEE1394 standards. When you connect to DV IN jack on the front of this unit, select "DV" position using [INPUT SELECT ->] on the remote control and press [DISPLAY] to show the DV dubbing information for the dubbing your DVC.



The following instructions are described with the operations using the remote control of this unit.

DV icon

Indicator of active device

When the "Control" is highlighted, press [ENTER] to display the item selection. Use [▲ / ▼] to select the device you wish to operate, then press [ENTER] to activate.

- Select "DVD" to control this unit.
- Select "DVC" to control your DVC.

Recording audio mode

• Other than the DVC is in stop mode, the "DV Audio" can be selected. Press [ENTER] to display the item selection and then use [▲ / ▼] to select the audio you wish to output. Press [ENTER] again to activate.

- Select "Stereo1" to dub the stereo sound.
- Select "Stereo2" to dub the sound with after recording sound.
- Select "Mix" to dub the stereo1 and stereo2.

Indicator of dubbing function

- When the unit is ready for dubbing, "Start Rec" will appear.
- When the unit is in dubbing, "Pause Rec" will appear.

6. Product name of your DVC

- If the unit cannot recognize the input signal from the DVC or the unknown product, "No Device" or "*****" will appear instead.

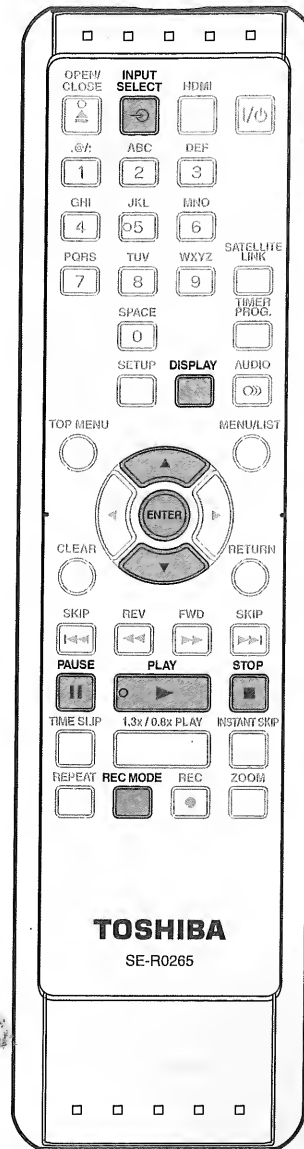
7. Status of the current operation and the time counter

Each icon means:

- | | | | |
|-----|---|-----|--|
| □ | DVC is in stop mode. | ⏮ | DVC is fast forwarding. (in stop mode) |
| ▷ | DVC is in playback mode. | ⏪ | DVC is fast reversing. (in stop mode) |
| ⏸ | DVC is in pause mode. | ◀ | DVC is in reverse playback. |
| ⏭ | DVC is fast forwarding. (standard speed) | ⏩ | DVC is fast reversing. (standard speed) |
| ⏭⏭ | DVC is fast forwarding. (faster than above) | ⏩⏩ | DVC is fast reversing. (faster than above) |
| ⏭⏭⏭ | DVC is fast forwarding. (faster than above) | ⏩⏩⏩ | DVC is fast reversing. (faster than above) |
| ⏭⏭⏭ | DVC is slow forwarding. (standard speed) | ⏩⏭ | DVC is in slow reverse playback. |
| ⏭⏭⏭ | DVC is slow forwarding. (faster than above) | ● | DVC is in recording. |
| ⏭⏭⏭ | DVC is slow forwarding. (faster than above) | ⏭● | DVC is in recording pause mode. |

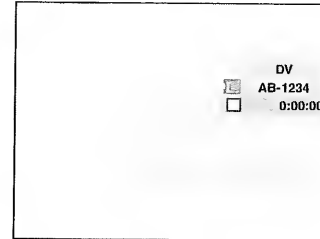
DVC to DVD Dubbing

Before recording from DVC, see page 41 for connection instructions.



Insert a recordable DVD-RW/-R or DVD+RW/+R and sure your DVC is in video mode.

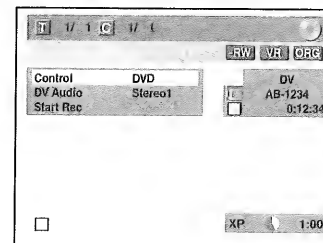
1 Use [INPUT SELECT] to select "1"



2 Press [REC MODE] to select a recording mode.
(Refer to page 34.)

3 Press [DISPLAY].

4 Press [ENTER] to display the item selection. Use [▲ / ▼] to select "DVD" then press [ENTER].



5 Press [PLAY] to find the point where you wish to start dubbing. Then, press [STOP] where you wish to start dubbing.

6 Use [▲ / ▼] to select "Start Rec", then press [ENTER].
The dubbing will start.

7 To stop dubbing;
Use [▲ / ▼] to select "Control", then press [ENTER].
Use [▲ / ▼] to select "DVD", then press [ENTER].
Then press [STOP].

Note for DV dubbing

If you press [PAUSE] at step 5, the tape will rewind to the point a few seconds preceding the paused point when you press [ENTER] at step 6, then, it will start dubbing when it comes to the paused point.

The unit does not send out the output signal to DVC.

For the proper operation, connect DVC to the unit directly. Do not connect this unit and DVC via any other unit.

Do not connect more than 1 DVC.

The unit can only accept DVC. Other DV device such as cable/satellite box or D-VHS VCR cannot be recognized.

If no video signal is detected from the DVC during DVC to DVD dubbing, the recording will be paused and "●" will flash on the TV screen. The recording will resume when the unit detects the video signal again.

When the DVC is in camera mode, refer to "Guide to DV and On-Screen Display" on page 45.

You cannot dub from DVC during timer standby mode.

Date / time and cassette memory data will not be recorded.

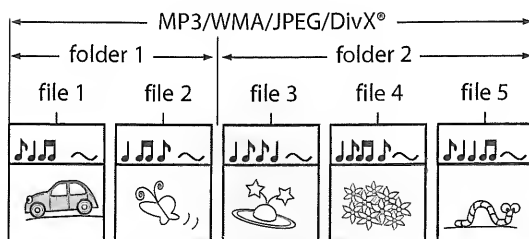
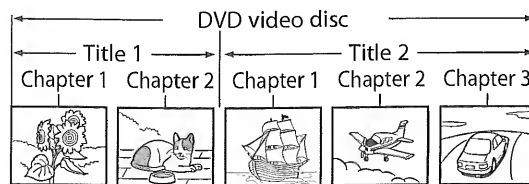
Pictures with a copy-guard signal cannot be recorded.

A DV terminal is a terminal that can use the transmission mode conforming to the IEEE 1394 standards called "Fire Wire". It serves as the interface that connects the PC and peripheral device such as "i.Link" (registered trademark of SONY). It enables digital dubbing between DV devices with little degradation.

INFORMATION ON PLAYBACK

Structure of Disc Contents

The contents of DVD are generally divided into titles, and the titles are subdivided into chapters.
Audio CDs are divided into tracks.
Data disc contains MP3/WMA/JPEG/DivX® are divided into folders, and the folders are subdivided into files.

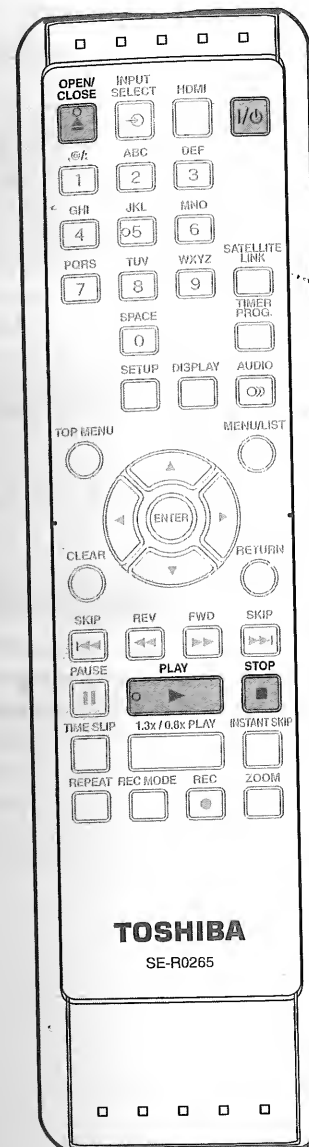


Title: Divided contents of a DVD video disc. Roughly corresponds to a story title in short stories.
Chapter: Divided contents of a title. This corresponds to a chapter in a story.
Track: Divided contents of an audio CD.
Folder: Divided contents of a MP3/WMA/JPEG/DivX data disc. Consists of number of files.

Each title, chapter, track, folder or file is assigned a number, which is called "title number", "chapter number", "track number", "folder number" or "file number" respectively.
Some discs may not have these numbers.

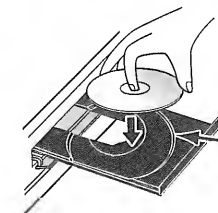
BASIC PLAYBACK

Direct Playback



1 Press [I/O ON/STANDBY].
Turn on the TV and be sure to select the input to which the unit is connected.

2 Press [OPEN/CLOSE ▲] to open the disc tray and insert your disc with its label facing up.



Align the disc to the disc tray guide.

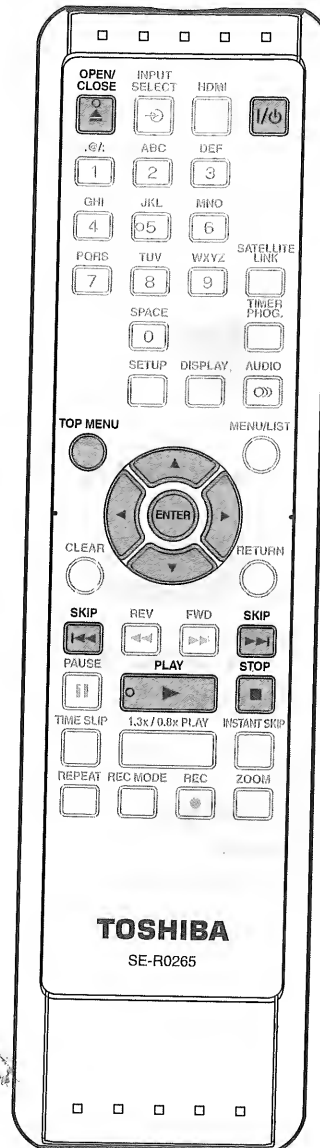
3 Press [OPEN/CLOSE ▲] to close the disc tray.
It may take awhile to load the disc completely.

4 Press [PLAY ►] to start playback.
If you are playing back a DVD-video, a menu may appear.
Refer to "Using the Title/Disc Menu" on page 55.

5 Press [STOP ■] once to stop playback temporarily.
• Refer to "Resume Playback" on page 56.

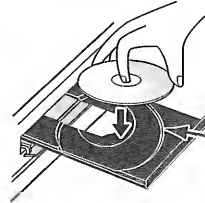
BASIC PLAYBACK

Playback from the Title List



1 Press [I/O ON/STANDBY].
Turn on the TV and be sure to select the input which the unit is connected.

2 Press [OPEN/CLOSE ▲] to open the disc tray and insert your disc with label facing up.



Align the disc to the disc tray guide.

3 Press [OPEN/CLOSE ▲] to close the disc tray.

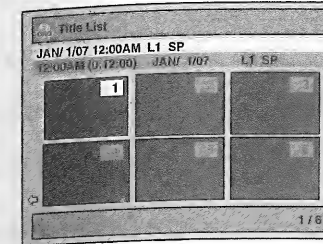
It may take awhile to load the disc completely.

Title list will appear automatically.

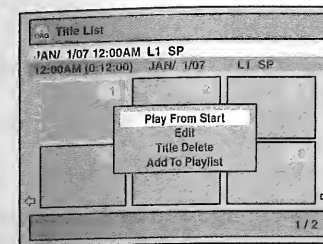
- To exit the title list, press [STOP ■].
- To resume the title list, press [TOP MENU].

BASIC PLAYBACK

Use [▲ / ▼ / ◀ / ▶] to select a desired title, then press [ENTER].
e.g.) VR mode DVD-RW original



Use [▲ / ▼] to select "Play From Start", then press [ENTER].



Playback will start.

Press [STOP ■] once to stop playback temporarily.

- Refer to "Resume Playback" on page 56.

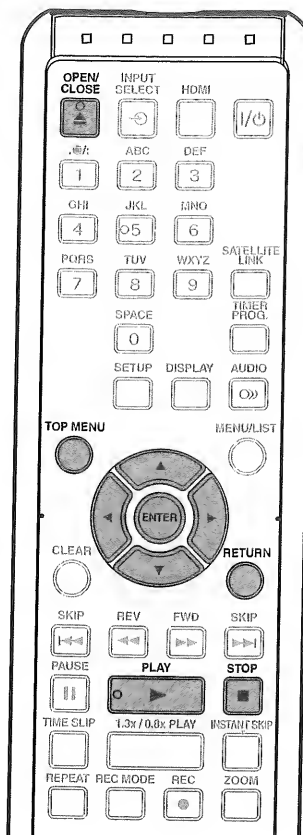
To eject the disc, press [OPEN/CLOSE ▲] to open the disc tray, then remove the disc before turning off the unit.

Note

- Some discs may start playback automatically.

BASIC PLAYBACK

Playing Back an Audio CD and a CD-RW/-R with MP3/WMA/JPEG Files



1 Follow steps 1 to 2 in "Direct Playback" on page 49.

2 Press [OPEN/CLOSE ▲] to close the disc tray.

It may take awhile to load the disc completely.

File list will appear automatically.

• To exit the file list, press [STOP ■].

• To resume the file list, press [TOP MENU].

3 Use [▲ / ▼] to select a desired folder or track/file, then press [ENTER].



When selecting track/file:

Playback will start.

When selecting folder:

The files in the folder will appear.

Use [▲ / ▼] to select the file or folder you want to play back, then press [ENTER].

• Press [PLAY ►], [ENTER] or [►] to move to any lower hierarchies.

• Press [◀] or [RETURN] to move back to the previous hierarchy.

Hints for audio CD tracks and MP3 / WMA / JPEG

• Folders are shown by [Folder icon].

• Audio CD tracks are shown by [CD icon].

• MP3 files are shown by [MP3 icon].

• WMA files are shown by [WMA icon].

• JPEG files are shown by [JPEG icon].

• The system can recognize up to 255 folders and up to 999 tracks/files.

• Letters of a file/folder name overflowing the given space will be displayed as "...".

• If there are no files in the folder, "No Files" will be displayed.

It is recommended that files to be played back in this unit are recorded under the following specifications:

<MP3 / WMA>

• Sampling frequency : 44.1 kHz or 48 kHz.

• Constant bit rate : 112 kbps - 320 kbps (MP3)
48 kbps - 192 kbps (WMA).

<JPEG>

• Upper limit : 6,300 x 5,100 dots.

• Lower limit : 32 x 32 dots.

• File size of image maximum: 12 MB.

Note

• The audio source of MP3 files cannot be recorded from digital sound by an MD or DAT deck.

• Files whose extension is other than ".mp3(MP3)", ".wma(WMA)" or ".jpg / .jpeg(JPEG)" will not be listed.

• Some unplayable folders or files may be listed due to the recording status.

• High-resolution JPEG files take longer to be displayed.

• Progressive JPEG files (JPEG files saved in progressive format) cannot be played back on this unit.

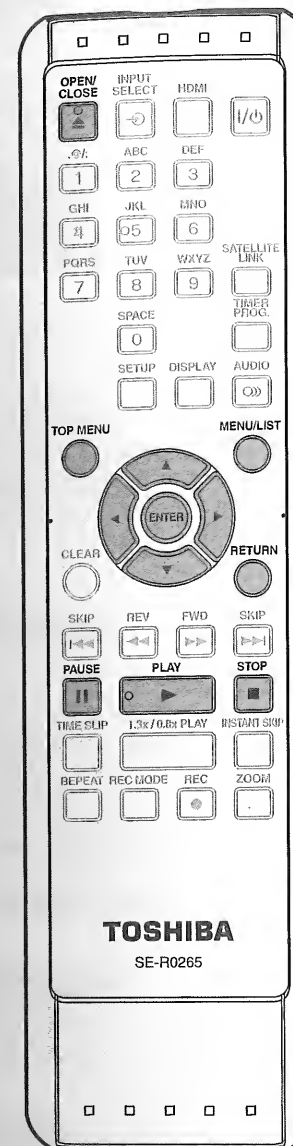
• The JPEG pictures can also rotate by using [◀/▶].

This DVD Video Recorder requires discs/recordings to meet certain technical standards in order to achieve optimal playback quality. There are many different types of recordable disc formats (including CD-R, CD-RW, MP3, WMA, JPEG, etc.).

BASIC PLAYBACK

Playing Back a DivX®

DivX®



1 Follow steps 1 to 2 in "Direct Playback" on page 49.

2 Press [OPEN/CLOSE ▲] to close the disc tray.

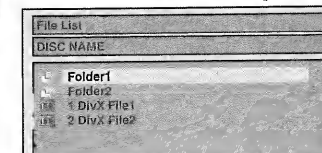
It may take awhile to load the disc completely.

File list will appear automatically.

• To exit the file list, press [STOP ■].

• To resume the file list, press [TOP MENU].

3 Use [▲ / ▼] to select the desired folder or file, then press [ENTER].



When selecting file:

Playback will start.

When selecting folder:

The files in the folder will appear.

Use [▲ / ▼] to select the file you want to play back, then press [ENTER].

• Press [PLAY ►], [ENTER] or [►] to move to any lower hierarchy.

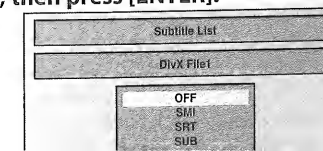
• Press [◀] or [RETURN] to move back to the previous hierarchy.

DivX® subtitle

The subtitle created by the user can be displayed during DivX® playback.

1) After selecting the DivX® file, the "Subtitle List" menu will appear when "DivX Subtitle" is set to anything other than "OFF". (Refer to page 92.)

2) Use [▲ / ▼] to select the extension you want to display, then press [ENTER].



BASIC PLAYBACK

It is recommended that files to be played back in this unit are recorded under the following specifications:

Official DivX® Certified product

- Playable codec of AVI files : DivX®3.x, DivX®4.x, DivX®5.x, DivX®6.0
- Maximum size of image : 720 x 480 @30 fps
720 x 576 @25 fps
- Sampling frequency of audio: 8 kHz - 48 kHz
- Audio type : MPEG1 audio layer 3(MP3), MPEG1 audio layer 2, Dolby Digital

Hint for the purchased or rental official DivX® Certified product

- When you purchased or rental a DivX® file through the official site of DivX® video which is called DivX® Video-On-Demand (VOD) services, a registration code is required every time you get the new file from the DivX® VOD services. Refer to "DivX® VOD" on page 92.

Note for DivX®

- DivX® is a codec (compression/decompression) that can compress images to a very small amount of data. The software can compress video data from almost any devices to the size that can be sent on the Internet without compromising visual quality of the images.
- A file with an extension of ".avi" and ".divx" is called an DivX® file. All files with the ".avi" extension are recognized as MPEG4.
- Files whose extension other than ".avi" and ".divx" will not be listed on the DivX® menu. However, unplayable folders and files may be displayed, depending on the recording conditions.
- Even if the file has an extension of either ".avi" and ".divx", this unit cannot play it back if it is recorded in the format other than DivX®.
- A symbol of  is shown on the top of the file name.
- A maximum of 255 folders or 999 files may be recognized in a disc.
- Up to 8 hierarchies can be recognized in a folder. Files in the 9th or deeper hierarchies cannot be played back.
- If there are more than 9 files, a down arrow "↓" appears, indicating that the user can view another part on the previous page. The current page number and the number of total pages are shown on the bottom of the screen.
- Letters of a file/folder name overflowing the given space will be displayed as "...".
- You can play back the disc recorded in multi-session.
- It may take awhile for audio and images to be output after you inserted a disc and pressed [PLAY ▶].
- When playing back the files recorded in high bit rates, the images can be interrupted in some occasions.
- Although DivX® logo has been obtained for this unit, it may not be able to play back some data, depending on the data condition.

- Some DivX® VOD files are restricted with the limited playable times (you cannot play them back beyond the limit). If your DivX® VOD file has such limit, the playback confirmation screen will appear.

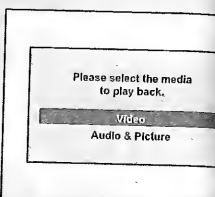
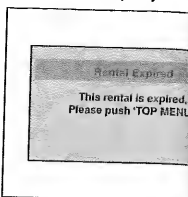
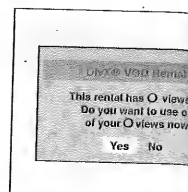
Use [◀/▶] to select "Yes" if you want to play back file, or to select "No" if you do not wish to play it back. Then, press [ENTER] to confirm the selection.

- You cannot play back the DivX® VOD files, of which rental period has been expired. In such case, press [TOP MENU] and select other files that can be played back.

- If DivX® files written on a CD-RW/-R cannot be played back, rewrite them on a DVD-RW/-R or DVD+RW/+R and try to play back.
- For more information for DivX®, please visit <http://www.divx.com>.
- If you insert a CD-RW/-R with DivX® files that are mixed with MP3/WMA/JPEG files, the playback media selection screen will be displayed. Please select "Video" and proceed to next step.
- Press [MENU/LIST] to call up the playback media selection screen in stop mode.
- If you select "Audio & Picture" instead of "Video" on the playback media selection screen, this unit can play back MP3/WMA/JPEG files.
- Some DivX® files cannot be played back on this unit due to configuration and characteristics of the disc, or due to the condition of recording and authoring software.
- You cannot play back the DivX® VOD files obtained with different registration codes on this unit. Press [TOP MENU] and select other files that can be played back.

Note for DivX® subtitle

- To utilize this function, the following conditions must meet.
 - "DivX Subtitle" must be activated in "DivX" menu. (Refer to "DivX Subtitle" on page 92.)
 - Playback file and the subtitle file must have the same



BASIC PLAYBACK

Using the Title/Disc Menu



A disc may contain a title list, which describes the contents of the disc, or a disc menu, which guides you through the available functions in the disc.

Press [MENU/LIST] or [TOP MENU] to call up the title list or disc menu.

Use [▲/▼/◀/▶] to make a selection, and then press [ENTER] to enable your selection.

Press [STOP ■] to exit the disc menu.

Note

You can select a numbered menu with [the Number buttons] also.

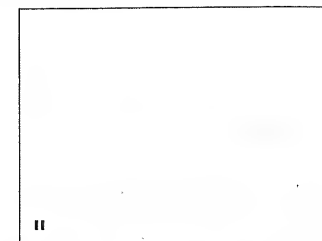
Menus vary among discs. Refer to the information accompanying the disc for details.

[MENU/LIST] or [TOP MENU] will not always be effective for all DVDs.

Pause

1) During playback, press [PAUSE III].

Playback will be paused and sound will be muted.



2) Press [PLAY ▶] to return to the normal playback.

Note

- For DVD, set "Still Mode" to "Field" in "Playback" menu if pictures in the pause mode are blurred. (Refer to page 88.)

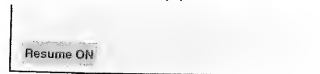
SPECIAL PLAYBACK

Resume Playback

You can play back from where you stopped playing back the disc last.

1) During playback, press [STOP ■].

The resume message will appear.



2) Press [PLAY ►].

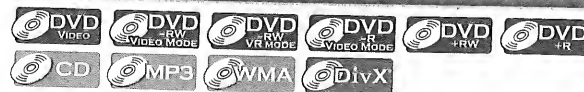
In a few seconds, playback will resume from the point at which it stopped last. You can resume playback at the same point even if you turn off the unit.

To cancel the resume playback and start playing back the disc from the beginning, press [STOP ■] again while the playback is stopped.

Note

- For MP3/WMA/JPEG files, playback will resume from the beginning of the file at which playback was stopped.

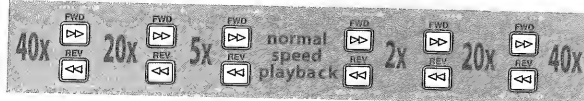
Fast Forward / Fast Reverse Playback



1) During playback, press [FWD ►►] or [REV ◀◀].

Every time you press [FWD ►►] or [REV ◀◀], approximate speed will be changed as follows.

Fast forward or fast reverse playback across titles (for DVD), or files (for MP3 / WMA / DivX® files) is not possible.



For audio CD, MP3/WMA files, approximate speed is fixed at 8x with sound.

Picture quality of DivX® files in fast reverse is lower than that in fast forward.

For some DivX® files, fast forward/fast reverse may not function.

2) Press [PLAY ►] to return to the normal playback.

Note

- Forward/reverse speed will be indicated with icons as follows.

forward (approx. speed)

2x: ►►

20x: ►►►

40x: ►►►►

reverse (approx. speed)

5x: ◀◀

20x: ◀◀◀

40x: ◀◀◀◀

Skipping TV Commercials During Playback



You can skip TV commercials to enjoy the recorded programs without interrupting.

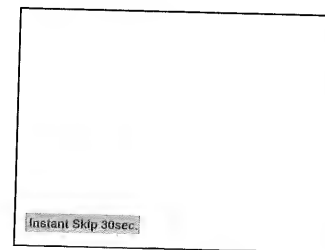
During playback, press [INSTANT SKIP].

Normal playback will start at 30 seconds ahead from the point you press [INSTANT SKIP].

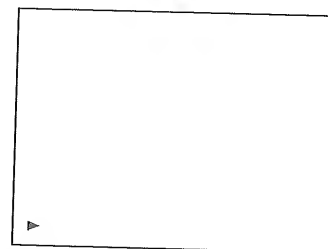
Every time you press [INSTANT SKIP], the searching point will be extended by 30 seconds ahead.

You can press [INSTANT SKIP] up to 6 times (180 seconds).

e.g.) Press [INSTANT SKIP] once.



(forwarding 30 seconds)



Playback will return to the normal playback.

SPECIAL PLAYBACK

Rapid Playback



Rapid playback function is available only during playback.

This function is available only on discs recorded in the Digital format, and plays back in a slightly faster/over speed while keeping the sound quality just as normal playback.

During playback, press [1.3X / 0.8X PLAY].

x0.8: Press [1.3X / 0.8X PLAY] once during playback. Plays back approximately at 0.8 times of normal playback.

x1.3: Press [1.3X / 0.8X PLAY] twice during playback. Plays back approximately at 1.3 times of normal playback.

Press [1.3X / 0.8X PLAY] thrice to play back in normal speed.
No effects.

Note

Audio (language) setting cannot be changed while using this mode.

This feature may not work at some point in a disc.

Audio is PCM during rapid playback mode except when using digital audio connection.

When using digital audio connection (COAXIAL or HDMI), the LPCM sound (2 channel) will be output.

Step by Step Playback



During playback, press [PAUSE ■■].

Playback will be paused and sound will be muted.

Press [SKIP ►►] repeatedly.

Playback will advance one frame at a time when you press [SKIP ►►] with the sound muted.

To play back step by step backward:

Press [SKIP ◀◀] repeatedly.

Every time you press the button, the playback will go backward by one frame.

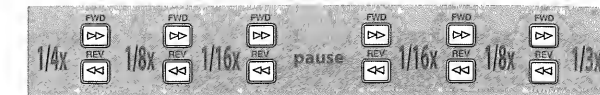
Press and hold [SKIP ◀◀] / [SKIP ►►] to reverse/advance continuously.

Slow Forward / Slow Reverse Playback



1) During playback, press [PAUSE ■■]. Then press [FWD ►►] or [REV ◀◀].

Every time you press [FWD ►►] or [REV ◀◀], approximate speed will be changed as follows. (The sound will remain muted.)



To return to the normal playback, press [PLAY ►].

Note

- Forward/reverse speed will be indicated with icons as follows.

forward (approx. speed)

1/16x: ►►

1/8x: ►►►

1/3x: ►►►►

reverse (approx. speed)

1/16x: ◀◀


1/8x: ◀◀◀

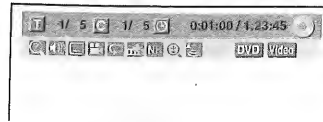
1/4x: ◀◀◀◀

- For some DivX® files, slow forward/slow reverse may not function.
- Only slow forward is available when playing back DivX® files.

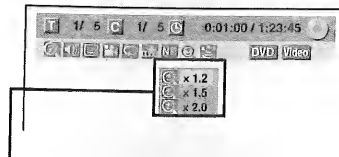
Zoom



- 1) During playback, press [DISPLAY] or [ZOOM].
 - If [ZOOM] is pressed, skip to step 3.
- 2) Use [◀/▶] to select , then press [ENTER] within 1 second, or wait for 1 second to display the selection menu.
e.g.) DVD-video



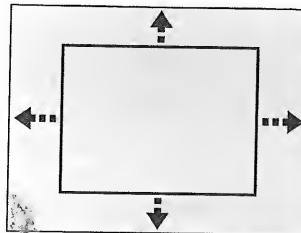
- 3) Use [▲/▼] to select a desired zoom factor to zoom, then press [ENTER].



Zoom menu will appear.
There are four options
(x1.0, x1.2, x1.5 and x2.0), these are displayed
excluding the current zoom rate.

Zoom area will be displayed.

- 4) Use [▲/▼/◀/▶] to select a desired zoom position, then press [ENTER].



Zoom playback will start.

Note


- When selecting a smaller factor than the current one, the zoom area will not be displayed.
- To exit the zoom menu, press [DISPLAY] repeatedly.
- To cancel the zoom function, select "x1.0" using [▲/▼], then press [ENTER] at step 3.
- You cannot slide the zoomed picture on some JPEG

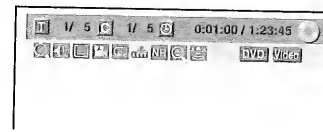
Marker Setting



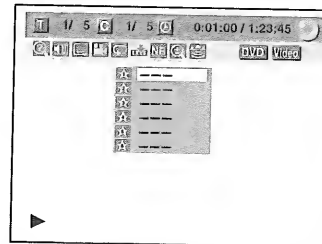
This feature allows you to assign a specific point on the program to be called back later.

- For audio CD, skip to step 2.

- 1) During playback, press [DISPLAY].
- 2) Use [◀/▶] to select , then press [ENTER] within 1 second, or wait for 1 second to display the marker list.
e.g.) DVD-video



- 3) Use [▲/▼] to select a desired marker number. When it reaches the desired point, press [ENTER].
e.g.) DVD-video



The title (track) number and the time will be displayed.

- 4) To return to the marker:
Use [▲/▼] to select the desired marker number, then press [ENTER].

Note

- To clear a marker, select the marker number to be cleared, then press [CLEAR].
- All markers will be erased when you operate these operations listed below.
 - Opening the disc tray
 - Turning off the power
 - Record on a recordable disc
- You can mark up to 6 points.

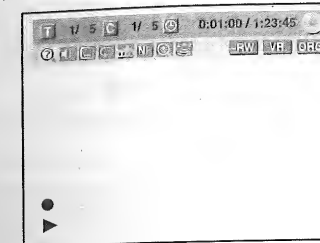
Threading Playback during Recording

You can play back the already recorded part of the program currently recording program without waiting for the recording to the end. **This function works from 1 minute after the start of the recording.**

During recording, press [PLAY ▶].

Playback will start from the beginning of the program that you are currently recording.

Screen for the current playback:

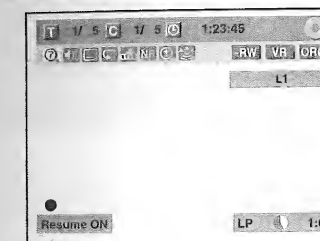


If you play back the fast forward playback and the playback reaches the scene recorded 1 minute before, the forwarding playback will automatically return to the normal playback.

Press [STOP ■] once to stop playback.

The resume message will appear.

Screen for the current recording:



To stop recording, press [STOP ■] again.

To cancel the resume, press [STOP ■] again.

Using the [TIME SLIP] button...

With [TIME SLIP] button, even if you leave your couch while you are watching TV through this unit, you can come back and watch rest of the program from right where you left at any convenient time with just one button. Please make sure to put VR mode DVD-RW disc, and set the recording mode to LP, EP or SLP.

- 1) While viewing a TV broadcast via this unit, press [TIME SLIP].

This unit start to record the TV broadcast.

- 2) Press [TIME SLIP] again.

Playback will start from the point you press [TIME SLIP] first while recording continues.

- While viewing the recorded content, you can pause and resume the playback by pressing [TIME SLIP].

- 3) To stop the recording, press [STOP ■] twice.

Note

- Playback image may freeze momentarily using this function. However, this does not affect the recording.
- The 2x fast forward playback is not available.
- [REC ●] is not available during this function.
- You must cancel this function first by pressing [STOP ■] once. Then you can use [REC ●] to use OTR (one-touch timer recording) function or change recording time for the OTR.
- "Wait for a moment." will be displayed on the screen if you press [PLAY ▶] before 1 minute of recording.
- **This function is available only when you are recording on a DVD-RW in VR mode, with the recording mode LP, EP or SLP.**

SPECIAL PLAYBACK

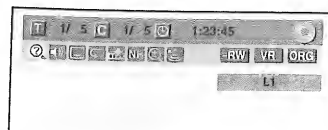
Simultaneous Playback and Recording



You can also play back a recorded title during current recording or the timer recording on the same disc.

1) During recording, press [DISPLAY].

Screen for the current recording:



2) Select icon using [◀/▶], then press [ENTER].

The title number next to will be highlighted.

Title:

Enter a desired title number to search using [▲/▼] or [the Number buttons], then press [ENTER].

Selected title playback will start.

Chapter:

To move to for chapter, press [▶].

Enter a desired chapter number to search using [▲/▼] or [the Number buttons], then press [ENTER].

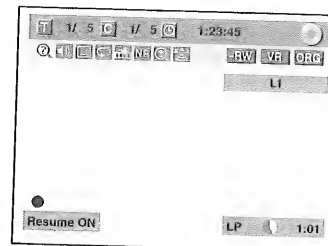
Selected chapter playback will start.

If you play back the currently recording program and the playback reaches the scene recorded 1 minute before, the forwarding playback will automatically return to the normal playback.

3) Press [STOP] once to stop playback.

The resume message will appear.

Screen for the current recording:



To stop recording, press [STOP] again.

To cancel the resume, press [STOP] again.

Note

- Playback image may freeze momentarily using this function. However, this does not affect the recording.
- The 2x fast forward playback is not available.
- **This function is available only when you are recording on a DVD-RW in VR mode, with the recording mode LP, EP or SLP.**
- Only the titles (chapters) in the original can be selected. You cannot select titles from the title list.
- When you stop the playback after the timer recording is completed, the unit will be switched to the timer standby mode if another program has been set (refer to "Hints for Timer Recording" on page 40).

SEARCH

Title/Chapter Search



Using [SKIP ◀◀] / [SKIP ▶▶]

During playback, press [SKIP ▶▶] to skip the current title or chapter and move to the next.

The title or chapter will move forward by one at a time.
• If there is no chapter in one title, the current title will be skipped.

To go back to the beginning of the current title or chapter, press [SKIP ◀◀].

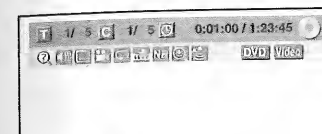
Press it twice in quick successions to go to the previous title or chapter. The title or chapter will move backward one title at a time.

Using [DISPLAY]

1) During playback, press [DISPLAY].

2) Use [◀/▶] to select , then press [ENTER].

e.g.) DVD-video



The number next to will be highlighted.

3) Title:

Use [▲/▼] or [the Number buttons] to enter a desired title number to search, then press [ENTER].

Title search will start.

Chapter:

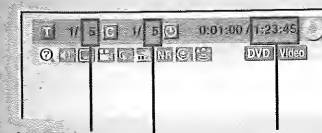
Press [▶] to move to the number next to for chapter.

Use [▲/▼] or [the Number buttons] to enter a desired chapter number to search, then press [ENTER].

After the search, playback will start automatically.

Note

- In search mode display, total numbers of each search contents (title/chapter/time) are shown as a denominator.



total number

total time

Track Search



Using [SKIP ◀◀] / [SKIP ▶▶]

1) During playback, press [SKIP ▶▶] to skip the current track/file and move to the next.

The track/file will move forward one at a time.

To go back to the beginning of the current track/file, press [SKIP ◀◀].

Press it twice in quick successions to go to the previous track/file. The track/file will move backward one at a time.

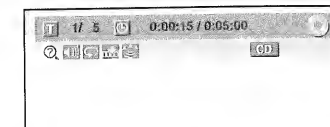
Using [DISPLAY]

- For audio CD, skip to step 2.

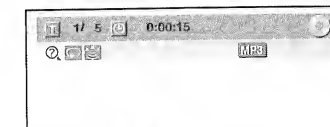
1) During playback, press [DISPLAY].

2) Use [◀/▶] to select , then press [ENTER].

e.g.) audio CD



e.g.) MP3 files



The number next to will be highlighted.

3) Use [▲/▼] or [the Number buttons] to enter a desired track/file number to search, then press [ENTER].

After the search, playback will start automatically.

Note

- During CD playback, you can enter a track number directly using [the Number buttons] for track search without displaying the menu.

SEARCH

Time Search



- For audio CD, skip to step 2.

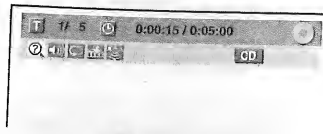
1) During playback, press [DISPLAY].

2) Use [◀/▶] to select , then press [ENTER].


e.g.) DVD-video




e.g.) audio CD



The number next to **T** will be highlighted.

To move to the number next to , press [▶].

When time search is not available,  and time counter are not displayed.

3) Use [▲/▼/◀/▶] or [the Number buttons] to enter a desired time to search, then press [ENTER].
After the search, playback will start automatically.

Note

- Time search is available only in the same track, file or title.


REPEAT/RANDOM/PROGRAM PLAYBACK/SLIDE SHOW

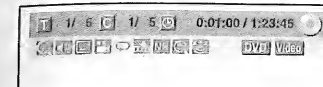
Repeat Playback

Available repeat function may vary depending the discs.
For audio CD, MP3, or WMA, skip to step 2, or press [REPEAT] and skip to step 3.

1) During playback, press [DISPLAY] or [REPEAT].

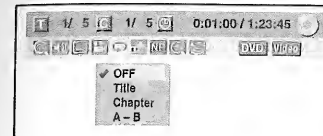
- If you press [REPEAT], skip to step 3.

2) Use [◀/▶] to select , then press [ENTER] within 1 second, or wait for 1 second to display the selection menu.

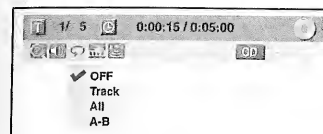


3) Use [▲/▼] to select a desired option to repeat, then press [ENTER].

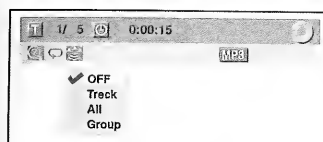
e.g.) DVD-video



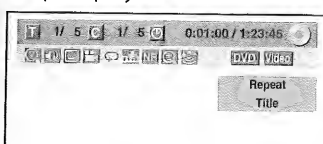
e.g.) audio CD



e.g.) MP3/WMA/JPEG files



The selected repeat playback will start.



Title:

The current title will be played back repeatedly.

Chapter:

The current chapter will be played back repeatedly.

All:

The current disc will be played back repeatedly.

A-B:

Desired section can be played back repeatedly.

Note

- Point B for the repeat A-B playback should be set within the same chapter or track of point A.
- To cancel the repeat playback, select "OFF" at step 3. The repeat setting will also be canceled when you stop playback.
- You cannot select "Group" during the random playback of MP3/WMA/JPEG files.
- For some DivX® files, A-B repeat playback may not function.
- Chapter/Track repeat will be canceled whenever [SKIP ▶▶] or [SKIP ◀◀] is pressed.

Random Playback



You can play back a disc randomly instead of playing back in the original order.

1) Press [SETUP] in stop mode.

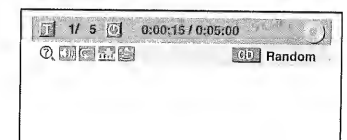
2) Use [▲/▼] to select "CD Playback Mode", then press [ENTER].

"CD Playback Mode" menu will appear.

3) Use [▲/▼] to select "Random Play", then press [ENTER].

Random playback will start.

e.g.) audio CD



Note

- To cancel random playback, press [STOP ■] twice during random playback. "OFF" appears on the display menu.

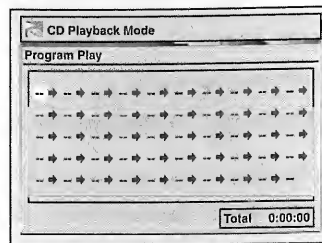
REPEAT/RANDOM/PROGRAM PLAYBACK/SLIDE SHOW

Program Playback



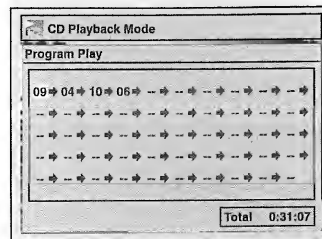
You can program the disc to play back in your desired order.

- 1) Press [SETUP] in stop mode.
- 2) Use [▲ / ▼] to select "CD Playback Mode", then press [ENTER].
"CD Playback Mode" menu will appear.
- 3) Use [▲ / ▼] to select "Program Play", then press [ENTER].
- 4) Use [▲ / ▼] to select a desired track, then press [ENTER] or [▶].



Repeat this step until you program all the desired tracks.

- 5) Press [PLAY ▶].



Program playback will start.

Note

- To erase tracks you selected, press [CLEAR] at step 4.
- You can make program settings up to 50 tracks.
- To cancel program playback, press [STOP ■] twice during program playback. "OFF" appears on the TV screen.
- You may also select a desired track using [the Number buttons] at step 4.

Slide Show



You can select the display time between 5 seconds and 10 seconds.

- 1) Follow steps 1 and 2 in "Program Playback" on the left.
- 2) Use [▲ / ▼] to select "Slide Show", then press [ENTER].
- 3) Use [▲ / ▼] to select the display time, then press [ENTER].
- 4) Press [SETUP] to exit.

Note

- Large-size JPEG files take a few moments to be displayed.

SELECTING THE FORMAT OF AUDIO AND VIDEO

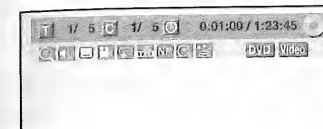
You can select the format of audio and video as you prefer depending on the contents of the disc you are playing back.

Switching Subtitles

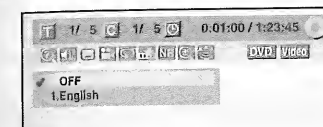


DVD-video may have subtitles in one or more languages. Available subtitle languages can be found on the disc case. You can switch subtitle languages anytime during playback.

- 1) During playback, press [DISPLAY].
- 2) Use [◀ / ▶] to select , then press [ENTER] within 1 second, or wait for 1 second to display the selection menu.
e.g.) DVD-video



- 3) Use [▲ / ▼] to select a desired subtitle language, then press [ENTER].



Subtitle will be displayed in the selected language. When "OFF" is selected, subtitle will disappear.

Note

- Some discs will only allow you to change the subtitle from the disc menu. Press [MENU/LIST] or [TOP MENU] to display the disc menu.
- If a 4-digit language code appears in the subtitle menu, refer to the "LANGUAGE CODE" on page 100.
- For disc with DivX® files, the TV screen only displays the number of subtitle languages and "____" next to the numbers.

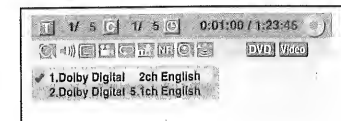
Switching Audio Soundtrack



When playing back a DVD-video recorded with 2 or more soundtracks (these are often in different languages), you can switch them during playback.

When playing back audio CD, you can switch "L/R" (stereo), "L" (left) or "R" (right).

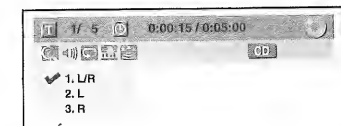
- 1) During playback, press [DISPLAY].
- 2) Use [◀ / ▶] to select , then press [ENTER] within 1 second, or wait for 1 second to display the selection menu.
- 3) Use [▲ / ▼] to select a desired audio soundtrack or audio channel, then press [ENTER].
For DVD-video, VR mode DVD-RW, or DivX® files
• Audio soundtrack will switch.
e.g.) DVD-video



- If the title contains both main and sub audio, you can further select "L" (main), "R" (sub), "L/R" (mixed of main and sub).

For audio CD

- Audio channel will switch.
e.g.) audio CD



Note


- Some discs will only allow you to change the soundtrack from the disc menu. Press [MENU/LIST] or [TOP MENU] to display the disc menu.

SELECTING THE FORMAT OF AUDIO AND VIDEO

Switching Virtual Surround System

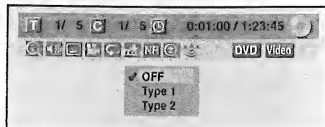


You can enjoy stereophonic virtual space through your existing 2 channel stereo system.

- 1) During playback, press [DISPLAY].
- 2) Use [◀/▶] to select , then press [ENTER] within 1 second, or wait for 1 second to display the selection menu.
e.g.) DVD-video



- 3) Use [▲/▼] to select "OFF", "Type 1" or "Type 2", then press [ENTER].
e.g.) DVD-video



OFF : no effect
Type 1 : natural effect
Type 2 : emphasized effect

Note

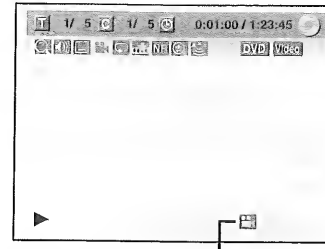
- Select "OFF" if sound is distorted.
- The setting will be kept when the unit is turned off.

Switching Camera Angles



Some DVD-video have scenes shot from two or more angles. Angle information should be on the disc case if the disc contains multi-angle scenes.

- 1) During playback, press [DISPLAY].
- 2) Use [◀/▶] to select , then press [ENTER].




Angle icon appears when a switching camera angle is available.
 Angle will switch each time you press [ENTER].

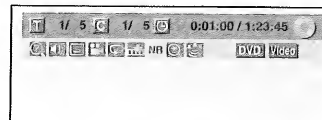
Note

- Angle icon does not appear on the TV screen if you set "Angle Icon" to "OFF" in "Playback" menu. Refer to page 88.

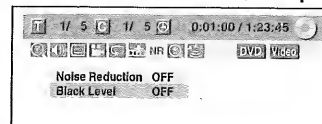
Reducing Block Noise



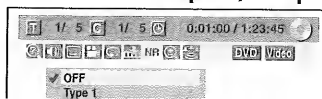
- 1) During playback, press [DISPLAY].
- 2) Use [◀/▶] to select , then press [ENTER] within 1 second, or wait for 1 second to display the selection menu.
e.g.) DVD-video



- 3) Use [▲/▼] to, select "Noise Reduction", then press [ENTER].



- 4) Use [▲/▼] to select a desired option, then press [ENTER].




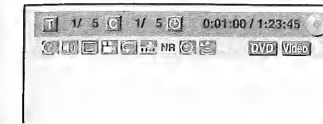
SELECTING THE FORMAT OF AUDIO AND VIDEO

Adjusting Black Level

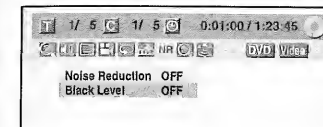


You can adjust the black level to control the brightness of the picture in order to get a better picture.

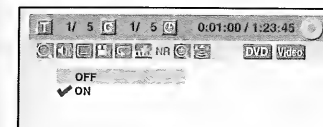
- 1) During playback, press [DISPLAY].
- 2) Use [◀/▶] to select , Press [ENTER] within 1 second, or wait for 1 second to display the selection menu.
e.g.) DVD-video



- 3) Use [▲/▼] to select "Black Level", then press [ENTER].



- 4) Use [▲/▼] to select "ON", then press [ENTER].
 Your setting will be activated.



Note

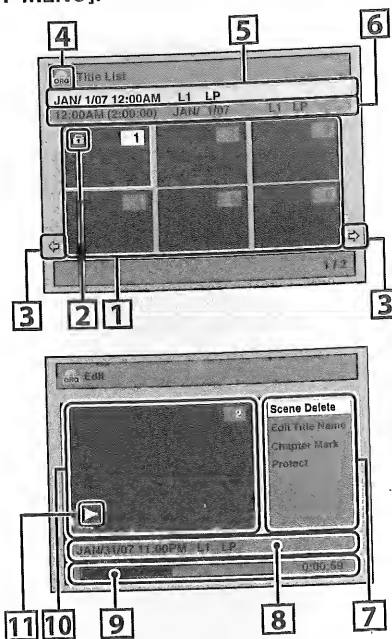
- You can adjust black level setting only during playback.
- The setting will be kept even when the unit is turned off.
- The default setting is "ON".
- You cannot adjust the black level for the images output through the HDMI.

INFORMATION ON DISC EDITING

Guide to a Title List

Title list allows you to check the titles recorded on the disc easily. You can choose a title to play back from this list and easily edit the titles as you prefer.

Press [TOP MENU].



- Title list:** List of the titles recorded on the disc, and their information.
 - For DVD+RW/+R, empty title always appears at the last of the title list.
- The protect icon, which appears when the title has been protected. (Original titles only)
- Arrow:** Indicating there is a previous / next page.
- Title list icon,** which indicates a type of the displayed title list.
 - ORG : VR(original).
 - PL : VR (Playlist).
 - +VR : +VR mode.
 - Video : Video mode.
- Title name.
- Title information, which displays recorded year/ date/ month/ time, length of the title, recorded external input position (L1, L2 or L3), and the recording mode.
- Submenu:** Submenus for the selected menu are displayed here.
- Title name** (editable): If you do not name the title, the recorded date, time, channel and the recording mode are displayed here.

Editing Discs

Edit the recorded disc

You will find editing discs is easy. This unit offers convenient edit functions which are possible only with DVD-RW/-R and DVD+RW/+R discs.

You can edit the following from a title list.

- Assigning a name to a title
- Dividing a title
- Combining titles
- Adding titles to a playlist
- Erasing all playlist
- Setting or releasing the title protection
- Adding or deleting chapter marks
- Deleting titles or parts of titles

(Possible editing functions depend on the recording format and editing method.)

Original and playlist (VR mode)

For VR mode DVD-RW, you can edit the recordings in playlist without changing the original recordings. Playlist does not take up much disc space. After you make a recording to VR mode DVD-RW, a playlist will be created automatically.

What "Original" or "Playlist" is for?

Throughout this manual, you will find original and playlist which refer to the actual content and the edited version.

- Original** content refers to what's actually recorded on the VR mode DVD-RW.
- Playlist** content refers to the edited version of the VR mode DVD-RW; how the original content is to be played back.

Finalizing a disc

- This will allow a disc that is recorded on this unit to be played back on other DVD player — without finalization it will not be playable on other DVD player.
- After finalizing a DVD-RW/-R or DVD+R, you cannot edit any information that is on that disc.
- If you have recorded in DVD+RW, then editing is still permitted after finalizing.

Using these editing functions to modify copyrighted content for any purpose other than your private viewing may be prohibited under the Copyright Laws of the United States and other countries, and may subject you to civil and criminal liability.

DELETING TITLES

Notes for deleting titles

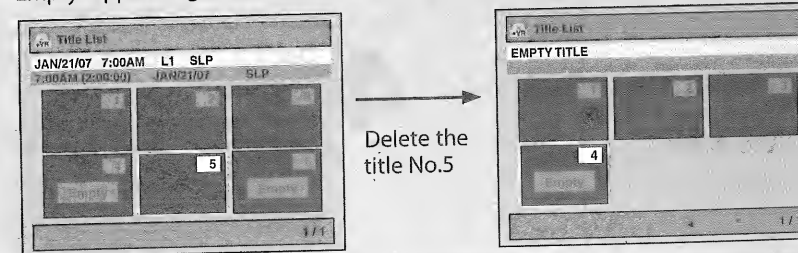
After the disc is fully recorded:

DVD-RW/DVD+RW	DVD-R/DVD+R
<ul style="list-style-type: none"> When a title is deleted from DVD-RW in VR mode, the recordable disc space will be increased. The Full-Recorded disc <p>Delete!</p> <p>You can record a new title.</p>	<ul style="list-style-type: none"> When the last title is deleted from DVD-RW in video mode or DVD+RW, the recordable space will be increased. The Full-Recorded disc <p>Delete!</p> <p>You can record a new title.</p>
<ul style="list-style-type: none"> When a title is deleted from DVD-R and DVD+R, the recordable space will NOT be increased. The Full-Recorded disc <p>Delete!</p> <p>The deleted title cannot be created the space.</p> <p>You cannot record a new title.</p>	

Once all editings are made, press [RETURN] in several times to exit the editing mode. "Writing to Disc" appears momentarily. It also appears when pressing [△ OPEN/CLOSE] or [I/O ON/STANDBY] before exiting the editing mode after editing.

Note

- If you delete the title in DVD+RW, deleted title will be displayed as "Empty".
- You cannot overwrite on the "Empty"
- For DVD+RW, if "Empty" appears right next to the other "Empty", those "Empty" combines into one.



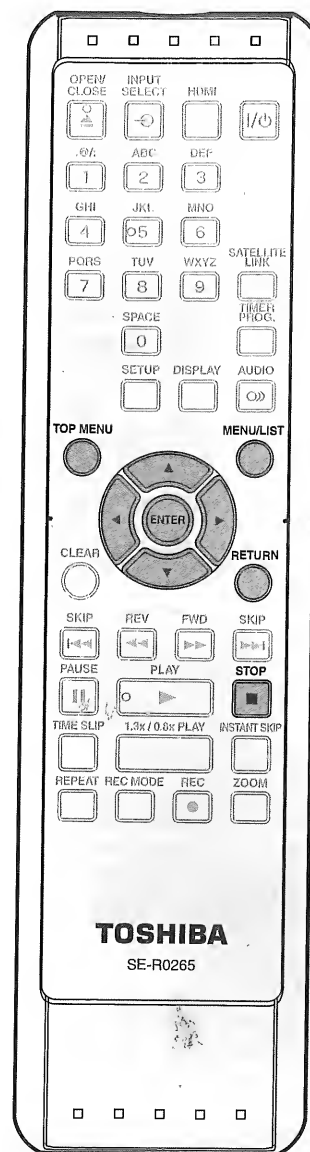
Delete the title No.5

DELETING TITLES

You can delete titles which you do not need anymore.

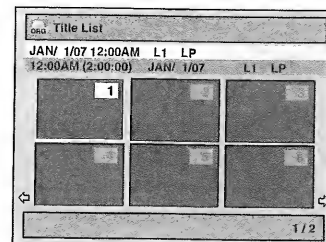
Please be advised that the titles once deleted cannot be brought back to the disc.

Be sure to read "Notes for deleting titles" on page 69 before you delete the title.

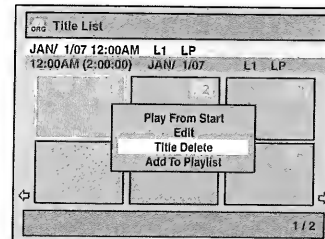


- 1 In stop mode, press [TOP MENU].**
Title list, original or playlist will appear.
• For VR mode DVD-RW, press [MENU/LIST] to switch between "Original" and "Playlist".

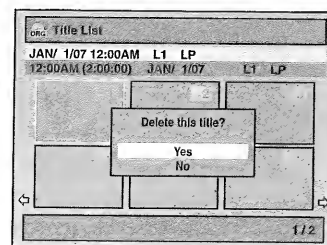
- 2 Use [▲ / ▼ / ◀ / ▶] to select a desired title, then press [ENTER].**
e.g.) VR mode DVD-RW original



- 3 Use [▲ / ▼] to select "Title Delete", then press [ENTER].**



- 4 Use [▲ / ▼] to select "Yes", then press [ENTER].**



After that, "Are you sure?" will appear, select "Yes" and then press [ENTER].

Title will be deleted.

- 5 Press [RETURN] or [STOP ■] to exit.**
Data will be written onto the disc momentarily.

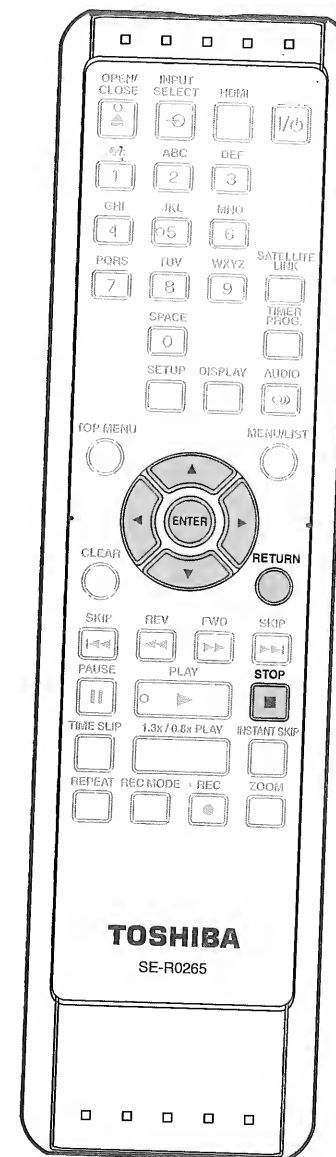
CREATING/DELETING PLAYLIST

Adding Titles to a Playlist



For VR mode DVD-RW, you can create the playlist as you wish.

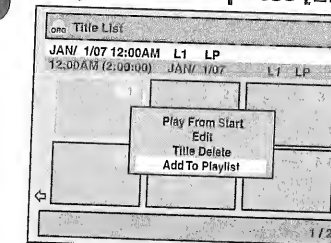
You can add up to 99 titles to a playlist (as long as the total number of the playlist does not exceed 999 chapters).



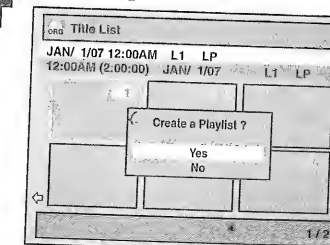
- 1 Follow the step 1 in "DELETING TITLES" on page 70 to display the original.**

- 2 Use [▲ / ▼ / ◀ / ▶] to select the desired title, then press [ENTER].**

- 3 Use [▲ / ▼] to select "Add To Playlist", then press [ENTER].**



- 4 Use [▲ / ▼] to select "Yes", then press [ENTER].**



The title is added to playlist.

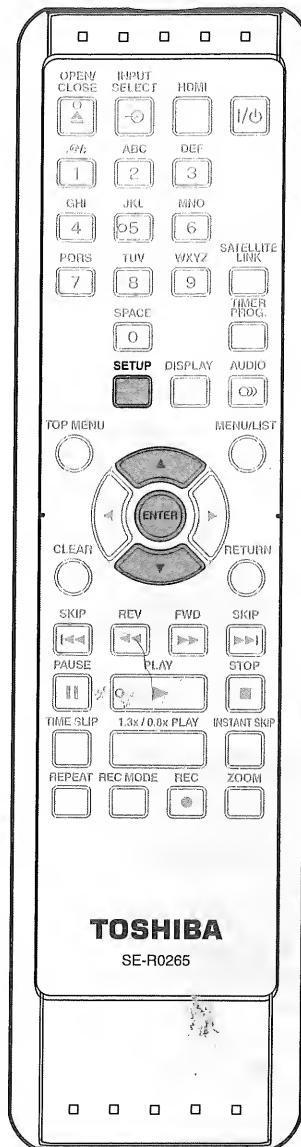
- 5 Press [RETURN] or [STOP ■] to exit.**
Writing on the disc starts.
It may take awhile to write the data on a disc.

CREATING/DELETING PLAYLIST

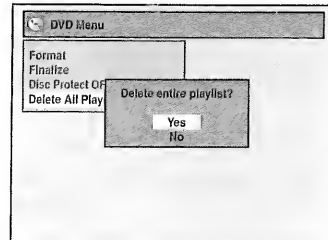
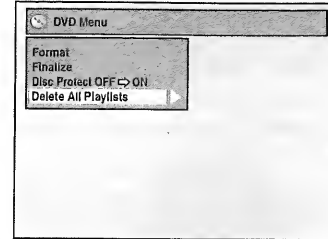
Erasing All Playlist



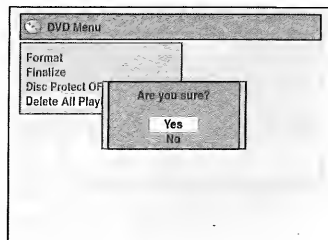
A playlist can be deleted if it is no longer needed.



- 1 Press [SETUP].
Main menu will appear.
- 2 Use [▲ / ▼] to select "DVD Menu", then press [ENTER].
- 3 Use [▲ / ▼] to select "Delete All Playlists", then press [ENTER].
- 4 Use [▲ / ▼] to select "Yes", then press [ENTER].



"Are you sure?" will appear.
Use [▲ / ▼] to select "Yes" and then press [ENTER].

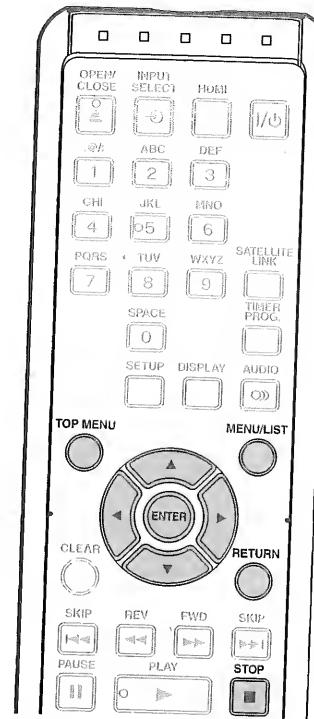


Playlist is deleted.
Writing on the disc starts.
It may take awhile to write the data on a disc.

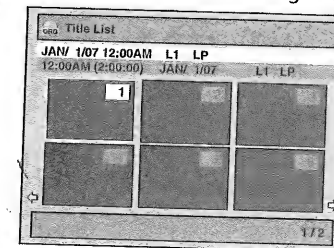
EDITING DISCS

Putting Names on Titles

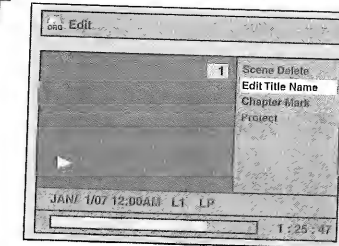
You can put a name on the disc and change it from this menu.



- 1 In stop mode, press [TOP MENU].
Title list, original or playlist will appear.
• For VR mode DVD-RW, press [MENU/LIST] to switch between "Original" and "Playlist".
- 2 Use [▲ / ▼ / ◀ / ▶] to select a desired title, then press [ENTER].
e.g.) VR mode DVD-RW original
- 3 Use [▲ / ▼] to select "Edit", then press [ENTER].



- 4 Use [▲ / ▼] to select "Edit Title Name", then press [ENTER].



- 5 To enter a title name, follow the steps of "Guide to Edit Title Name" on page 74.

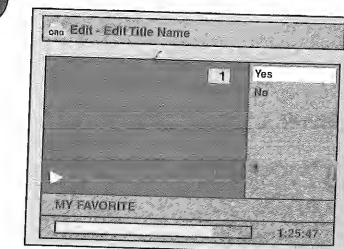


character set

area for entering title names

When you finish entering a title name, press [ENTER].

- 6 Use [▲ / ▼] to select "Yes", then press [ENTER].

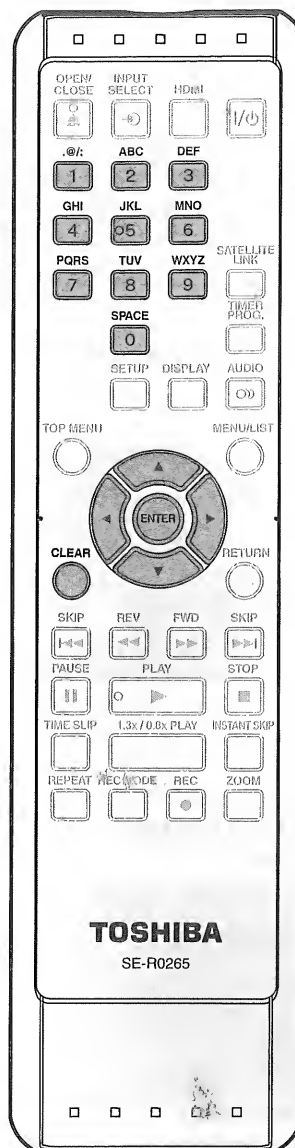


The name you entered will be activated for the title.

- 7 Press [RETURN] and then [RETURN] or [STOP ■] to exit.
Data will be written onto the disc momentarily.

This operation may take awhile to be completed.

Putting Names on Titles (cont'd)



Guide to Edit Title Name

- 1) Use [▲ / ▼] to select a desired character set, then press [ENTER].
- 2) Follow the list below, use [the Number buttons] repeatedly until the desired letter appears.

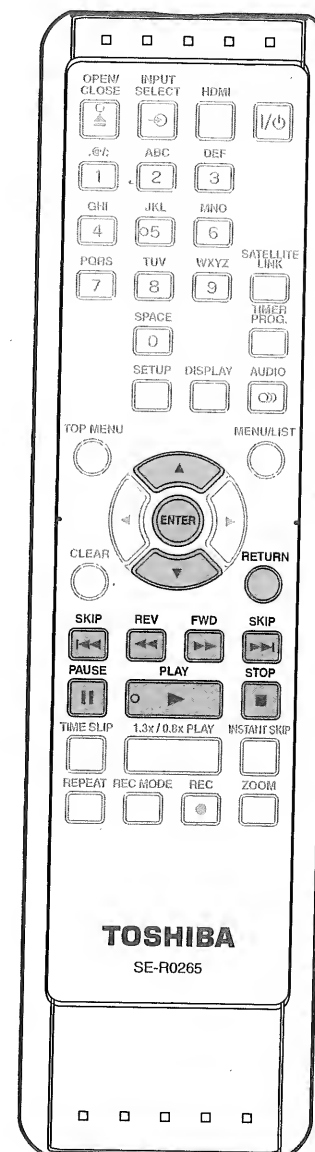
Select Press	ABC	abc	123	@!?
[0]	<space>	<space>	0	<space>
[1]	(*1)	(*1)	1	!"#\$%&'() *+,-./:;<=> ?@[]^_{}
[2]	ABC	abc	2	(*2)
[3]	DEF	def	3	(*2)
[4]	GHI	ghi	4	(*2)
[5]	JKL	klj	5	(*2)
[6]	MNO	mno	6	(*2)
[7]	PQRS	pqrs	7	(*2)
[8]	TUV	tuv	8	(*2)
[9]	WXYZ	wxyz	9	(*2)

- *1 Press [1], character set will be changed to the " @!?" mode automatically.
- *2 Press [2] to [9], character set will be changed to the previous input mode automatically.
- To delete letters, press [CLEAR] repeatedly. Press and hold [CLEAR] to delete all letters.
- Use [◀ / ▶] to move the cursor to the left and right.
- You can enter up to 30 letters.

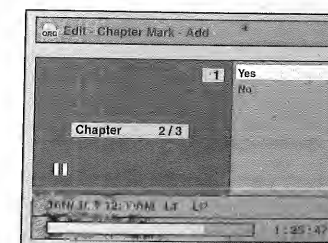
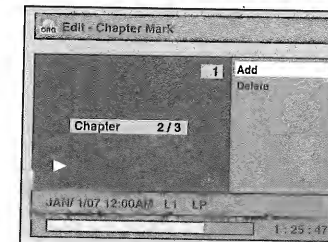
Setting Chapter Marks



You can put chapter marks in each title. Once a chapter is marked, you can use it for the chapter search feature.



- 1 Follow steps 1 to 3 in "Putting Names on Titles" on page 73 to display "Edit" menu.
- 2 Use [▲ / ▼] to select "Chapter Mark", then press [ENTER]. Submenu will appear.
- 3 Use [SKIP ◀◀ / ▶▶], [REV ◀], [FWD ▶], [PLAY ▶] and [PAUSE ||] to find the point where you will create a new chapter mark. Or, use [SKIP ◀◀ / ▶▶] to find a chapter mark that you wish to delete.
- 4 Use [▲ / ▼] to select "Add" or "Delete", then press [ENTER].
e.g.) VR mode DVD-RW original
- 5 Use [▲ / ▼] to select "Yes", then press [ENTER].
If you select "Add" at step 4, a new chapter mark will be added, and if you select "Delete" at step 4, the chapter mark will be deleted.
e.g.) Add



A new chapter mark will be added.

Note

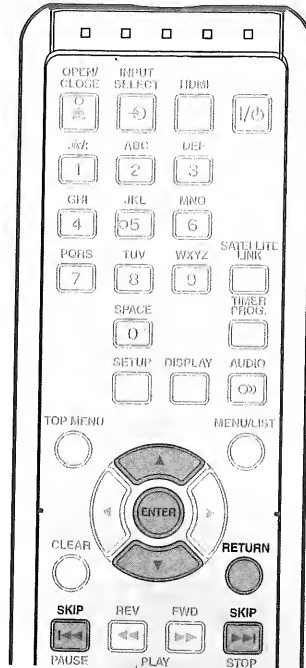
Press [RETURN].

EDITING DISCS

Hiding Chapters

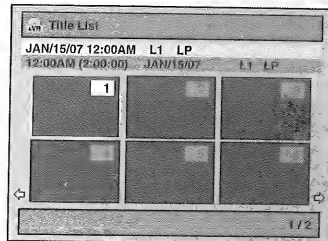


You can hide chapters from the title list.
Hidden chapters are skipped during playback.



1 In stop mode, press [TOP MENU].
Title list will appear.

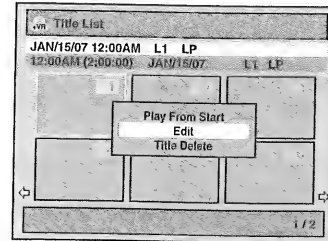
2 Use [▲ / ▼ / ◀ / ▶] to select a desired title, then press [ENTER].



Note

- "Hidden" will be displayed in the preview window while previewing the hidden chapter.
- When you make all chapters in the title "Hidden", "Hidden" is displayed in a thumbnail of the title list.

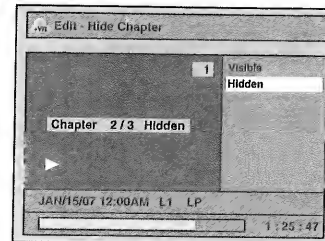
3 Use [▲ / ▼] to select "Edit", then press [ENTER].



4 Use [▲ / ▼] to select "Hide Chapter", then press [ENTER].
Submenu will appear.

5 Use [SKIP ◀◀] or [SKIP ▶▶] to decide the chapter to be hidden.

6 Use [▲ / ▼] to select "Hidden", then press [ENTER].



7 Press [RETURN].

8 Press [RETURN] again and then [RETURN] or [STOP ■] to exit.
Data will be written onto the disc momentarily.

This operation may take awhile to be completed.

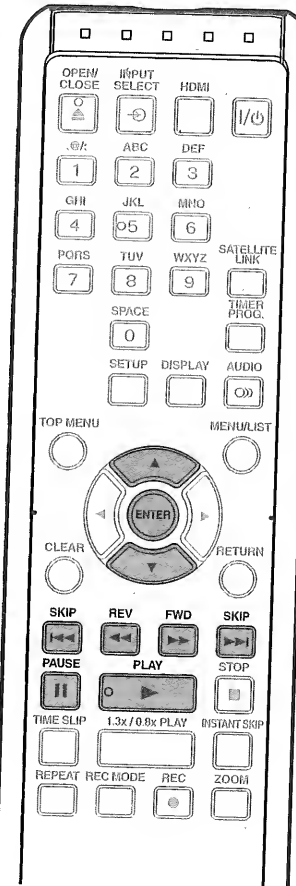
If you want hidden chapters to be "Visible", select the chapter to be shown. Then use [▲ / ▼] to select "Visible", then press [ENTER].

EDITING DISCS

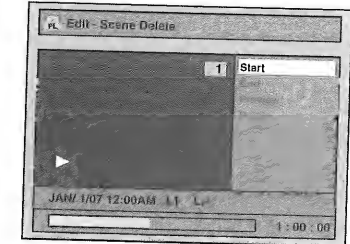
Deleting a Part of a Title



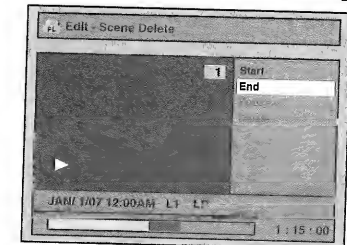
You can delete a specific part of a title.
Even when parts of title are deleted from the playlist, the original title will remain as it is.



3 Use [SKIP ◀◀ / ▶▶], [REV ◀◀], [FWD ▶▶], [PLAY ▶] and [PAUSE ■] to find the start point, then press [ENTER].

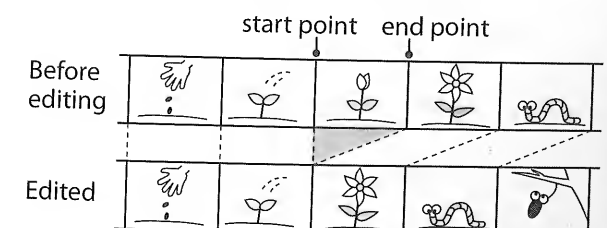


Then use [SKIP ◀◀ / ▶▶], [REV ◀◀], [FWD ▶▶], [PLAY ▶] and [PAUSE ■] again to move to the end point, and press [ENTER].



The cursor will move to "Preview".
The bar at the bottom of the screen indicates the total and the elapsed time of the title, and the area selected for deletion is indicated in red.
You can check the preview by pressing [ENTER].

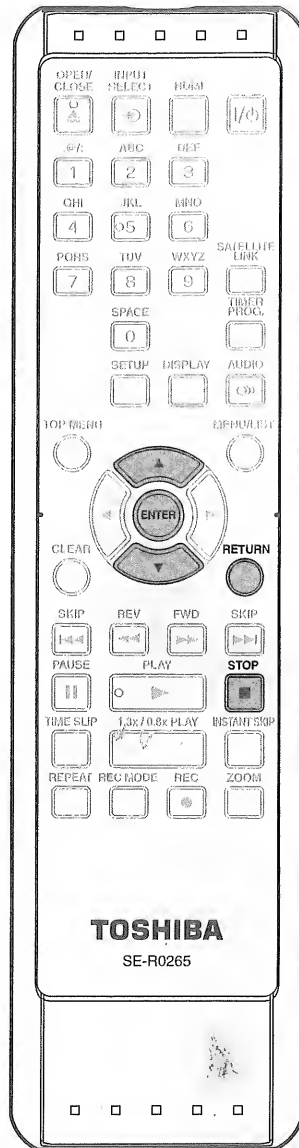
- Before and after 5 seconds of the deleted point will be playback for preview.



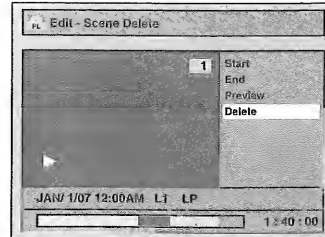
1 Follow the steps 1 to 3 in "Putting Names on Titles" on page 73 to display the "Edit" menu.

2 Use [▲ / ▼] to select "Scene Delete", then press [ENTER].

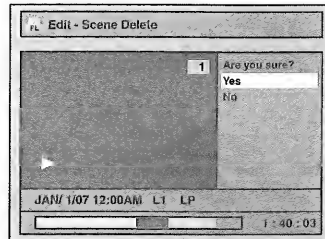
Deleting a Part of a Title (cont'd)



4 Use [▲ / ▼] to select "Delete" then press [ENTER].



5 Use [▲ / ▼] to select "Yes" then press [ENTER].
"Are you sure?" will appear. Select "Yes" using [▲ / ▼] and then press [ENTER].



The part of the title is deleted.

6 Press [RETURN] and then [RETURN] or [STOP ■] to exit.
Data will be written onto the disc momentarily.

This operation may take awhile to be completed.

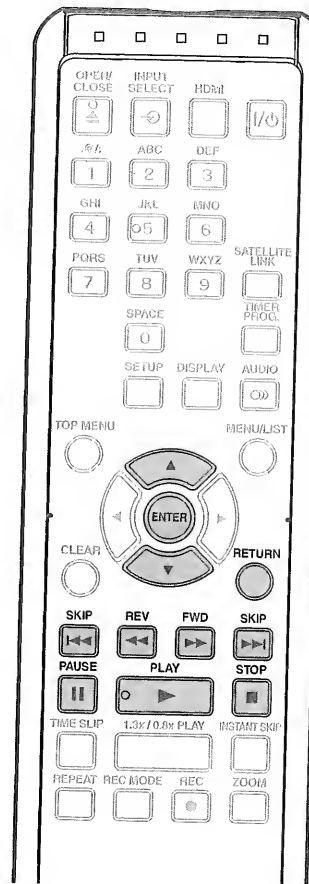
Note

When a scene is deleted from an original, the scene

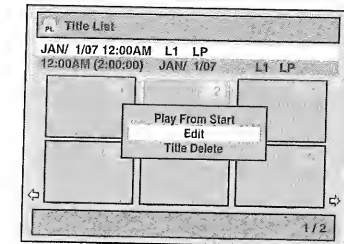
Dividing a Title



You can divide one title into two new titles.



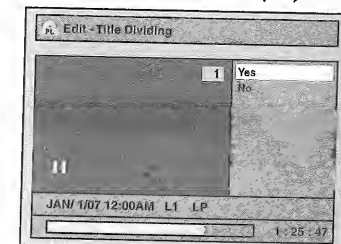
3 Use [▲ / ▼] to select "Edit", then press [ENTER].
e.g.) VR mode DVD-RW playlist



4 Use [SKIP ◀◀], [SKIP ▶▶], [REV ◀◀], [FWD ▶▶], [PAUSE ||] and [PLAY ▶] to decide the point at which you will divide the title.

5 Use [▲ / ▼] to select "Title Dividing", then press [ENTER].

6 Use [▲ / ▼] to select "Yes", then press [ENTER].
e.g.) VR mode DVD-RW playlist



The title will be divided into two new titles.
Both title names are identical.

For DVD+RW: Data will be written onto the disc momentarily.



This operation may take awhile to be completed.

For VR mode DVD-RW: Proceed to step 7.

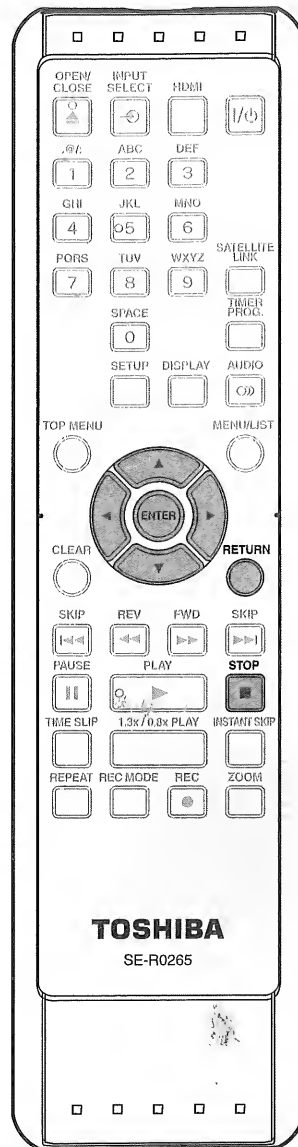
1 In stop mode, press [TOP MENU].
• For VR mode DVD-RW, press [MENU/LIST] to select "Playlist".

2 Use [▲ / ▼ / ◀ / ▶] to select a desired title, then press [ENTER].

Combining Titles

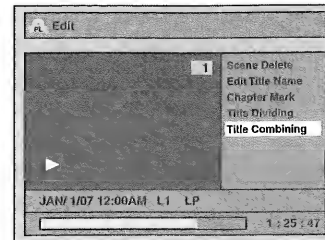


You can combine two titles into a single title.

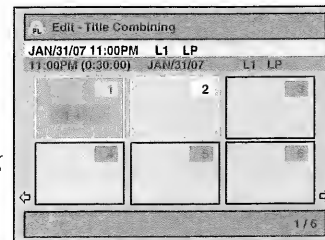


1 Follow the steps 1 to 3 in "Dividing a Title" on page 79 to display "Edit" menu.

2 Use [▲ / ▼] to select "Title Combining", then press [ENTER].

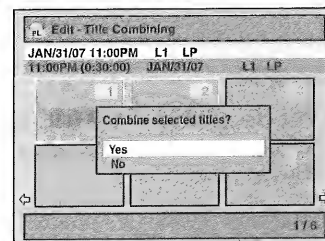


Title combining setting window will appear. Selected title grays out, and the frame of the next title becomes yellow.

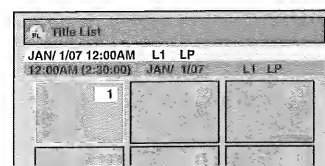


3 Use [▲ / ▼ / ◀ / ▶] to select another title to combine, then press [ENTER]. Selection menu will appear.

4 Use [▲ / ▼] to select "Yes", then press [ENTER].



The two titles will combine into a single title.



Setting or Releasing the Title Protection

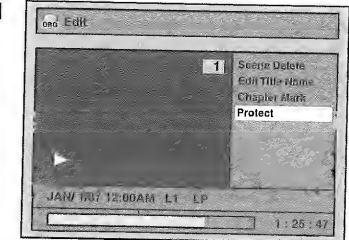


To prevent the accidental editing, or erasing of the titles, you can protect them in "Edit" menu.

You can cancel the title protection feature after it is applied.

1 Follow the steps 1 to 3 in "Putting Names on Titles" on page 73 to display "Edit" menu.

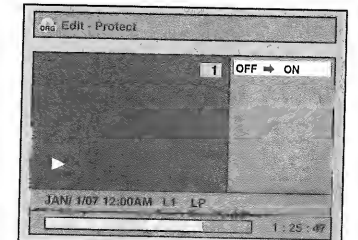
2 Use [▲ / ▼] to select "Protect", then press [ENTER].



• If the title is protected, icon will appear in the original list.

3 Confirm the indication "OFF ➡ ON". Press [ENTER] again.

- If the title is already protected, "ON ➡ OFF" will appear. If you press [ENTER], the title will be released from protection.



• icon will appear on the title in the original list.

4 Press [RETURN] and then [RETURN] or [STOP] to exit. Data will be written onto the disc momentarily.

This operation may take awhile to be completed.

To protect a whole disc (VR mode DVD-RW, DVD+RW/+R only):

Select "Disc Protect OFF ➡ ON" from the DVD Menu, then select "Yes".

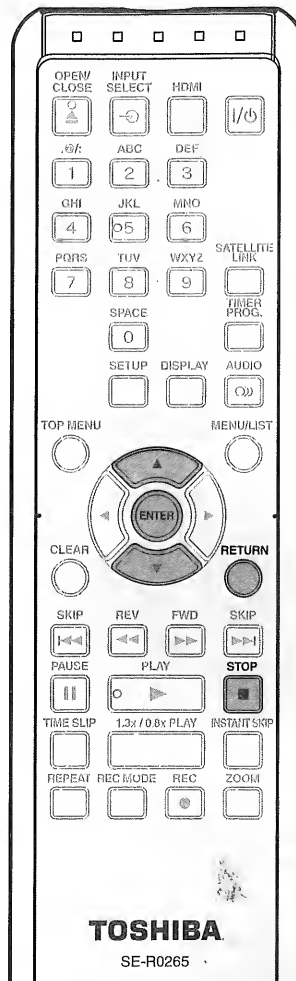
EDITING DISCS

Setting or Clearing All Chapter Marks at Once



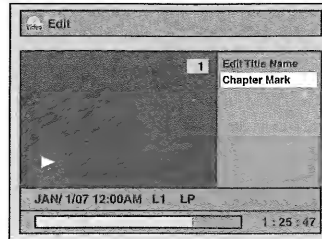
For titles in video mode DVD-RW, you can set or edit chapter at every time interval. You can clear the chapter mark too.

You can specify the interval of chapter marks for titles last more than 5 minutes.

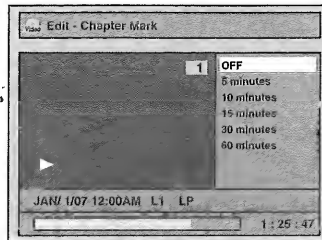


1 Follow the steps 1 to 3 in "Putting Names on Titles" on page 73 to display "Edit" menu.

2 Use [▲ / ▼] to select "Chapter Mark", then press [ENTER].



3 Use [▲ / ▼] to select the desired interval, then press [ENTER].



4 Use [▲ / ▼] to select "Yes", then press [ENTER].
Chapter marks are added.
If you select "OFF" at step 3, all the chapter marks are erased.

5 Press [RETURN] and then [RETURN] or [STOP ■] to exit.
Data will be written onto the disc momentarily.

This operation may take awhile to be completed.

LIST OF THE DEFAULT SETTINGS

The following table is the contents which you can set and the default settings. Refer to the following table for useful operation.

Setup	Items (highlight is the default)		Contents
General Setting	Playback	Parental Lock → page 86	All level 8 to 1 Set the parental level for DVD playback.
	Audio Out → page 87	Dynamic Range Control	ON OFF Compressing the range of sound volume.
		PCM	48kHz 96kHz Set whether the sound recorded in 96kHz will be down sampled in 48kHz.
		Dolby Digital	PCM Stream Set the type of sound signal which outputs from the digital audio output jack.
		DTS	ON OFF Set whether DTS signal is output or not.
	Disc Menu Language → page 88		English French Spanish Other Set the language for disc menu language.
	Audio Language → page 88		Original English French Spanish Other Set the language for audio.
	Subtitle Language → page 88		OFF English French Spanish Other Set the language for subtitles.
	Angle Icon → page 88		ON OFF Set whether to display the angle icon or not.
	Still Mode → page 88		Auto Field Frame Set the type of still image in pausing playback.
Display	OSD Language → page 89		English Français Español Set the language for OSD (on-screen display).
	Screen Saver → page 89		OFF 5minutes 10minutes 15minutes 30minutes Set the idling time before the screen saver starts.
	FL Dimmer → page 89		Auto Bright Dark Set the brightness of the front panel display.

LIST OF THE DEFAULT SETTINGS

Setup	Items (highlight is the default)		Contents
Video	Progressive → page 91	ON OFF	Set to the progressive scan mode (set to "ON") or to the interlace scan mode (set to "OFF").
	TV Aspect → page 91	4:3 Letter Box 4:3 Pan & Scan 16:9 Wide	Set a picture size according to aspect ratio of your TV.
	Select Video → page 19	L1(Rear) L2(Front)	Video In S-Video In Video In S-Video In
Recording	Auto Chapter → page 28	OFF 5 minutes 10 minutes 15 minutes 30 minutes 60 minutes	Insert chapter marks at even time interval.
	Recording Audio Select (XP) → page 29	PCM Dolby Digital	Set the recording audio type. (Only when the rec mode is set to XP.)
	Auto Finalize → page 31	Disc Full End of Timer Rec	Set the unit to finalize the disc automatically.
	Aspect Ratio (Video mode) → page 29	Auto 4:3 16:9	Set a aspect ratio for video mode recording.
	Make Recording Compatible → page 28	ON OFF	Set to prohibiting additional recording (OFF) or to replace the title list after recording (ON).
	Clock Clock Setting → page 25		Set the clock.
DivX	DivX®VOD → page 92		Provide DivX®VOD registration code.
	DivX Subtitle → page 92	OFF English French Spanish German Italian Swedish Dutch Russian1 Russian2 Hungarian Polish Czech	Set the language for DivX® Subtitle.
HDMI	Format → page 93	RGB YCbCr	Set the color space for the HDMI output.
	HDMI Audio → page 94	ON OFF	Set whether to output the HDMI audio signal or not.
	RGB Range → page 94	Normal Enhanced	Set the black-white contrast level for HDMI RGB output.
Reset All → page 95		Yes No	Set to the default setting.

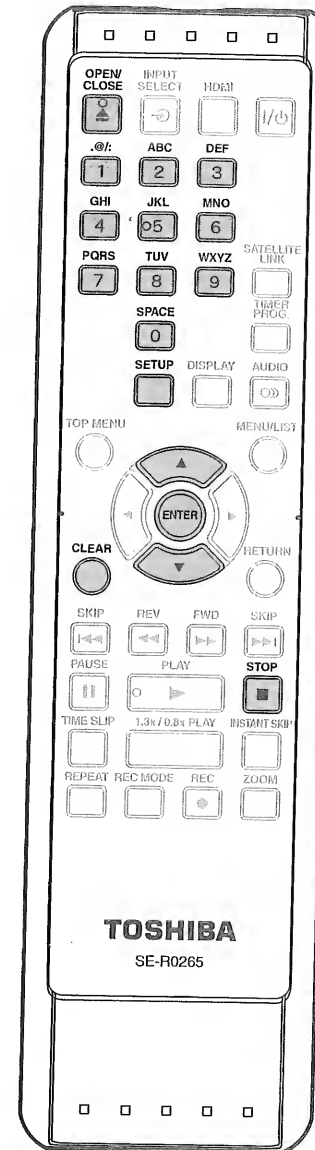
General Setting

Note

- Your change to each settings stays on even when the power is off.
- An item which is not currently available is grayed in the settings.

GENERAL SETTING

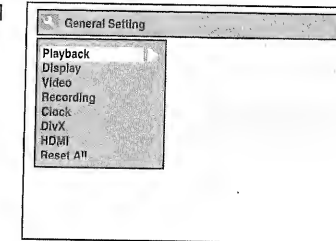
Playback



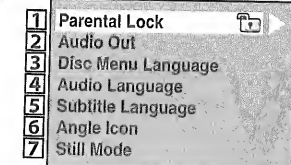
Press [STOP] if you are playing back a disc.

1 Press [SETUP] and use [▲ / ▼] to select "General Setting", then press [ENTER].

2 Use [▲ / ▼] to select "Playback", then press [ENTER].



3 Use [▲ / ▼] to select a desired item, then press [ENTER].



Submenu will appear.

4 Refer **1** to **7** on pages 86 to 88 and set the selected item.

5 When you finish with the setting, press [SETUP] to exit.

Introduction

Connections

Basic Setup

Disc Management

Recording

Playback

Editing

Function

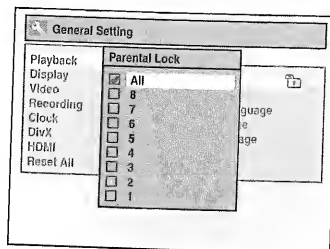
GENERAL SETTING

Playback (cont'd)

1 Parental Lock (Default: All)

Some DVD-video feature a parental lock level. Playback will stop if the ratings exceed the levels you set, it will require you to enter a password before the disc will playback. This feature prevents your children from viewing inappropriate material.

Use [▲ / ▼] to select the desired level, then press [ENTER].



If a password has not been set yet, proceed to **A**.
If a password has been set already, proceed to **B**.

RATING EXPLANATIONS

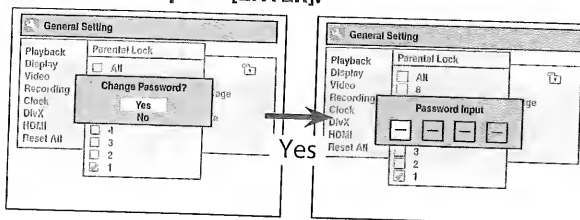
- ALL : Parental Control is inactive; all discs can play.
- 8 [ADULT]: DVD softwares of any grades (adult/general/children) can be played back.
- 7 [NC-17]: No one under 17 admitted.
- 6 [R]: Restricted; under 17 requires accompanying parent or adult guardian.
- 5 [PGR]: Parental Guidance Recommended.
- 4 [PG13]: Unsuitable for children under 13.
- 3 [PG]: Parental Guidance suggested.
- 2 [G]: General Audience.
- 1 [KID SAFE]: Suitable for children.

Note

- Parental lock function may not be available to some discs.
- With some DVD, it may be difficult to find if they are compatible with parental lock. Be sure to check if the parental lock function operates in the way that you have set.
- Record the password in case you forget it.
- If there is a DVD in the unit when you set up the parental lock, press [OPEN/CLOSE ▲] to activate the parental lock level.

A A password has not been set yet.

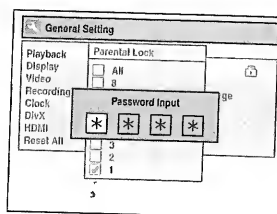
Use [▲ / ▼] to select "Yes", then press [ENTER]. Use [the Number buttons] to enter a new password except for 4737, then press [ENTER].



Your setting will be activated.

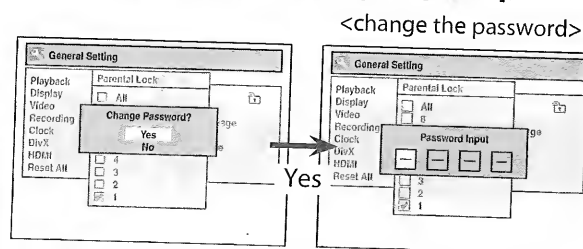
B A password has been set already.

• Use [the Number buttons] to enter the current password.



Your setting will be activated.

• If you want to change password, use [▲ / ▼] to select "Yes" then press [ENTER]. Use [the Number buttons] to enter a new password, then press [ENTER].



Your setting will be activated.

Note

- Press [CLEAR] to erase numbers entered incorrectly.
- When you forget the password or you want to clear all settings in "Parental Lock" menu, enter 4,7,3,7 using [the Number buttons] in password input window. Password will be cleared and parental levels will be set to "All".

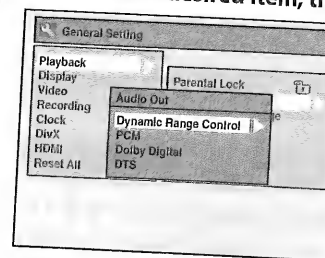
GENERAL SETTING

Playback (cont'd)

2 Audio Out

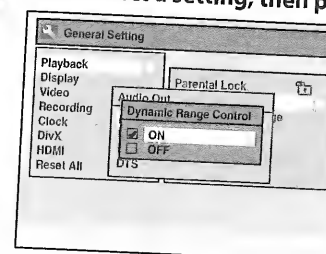
Choose the appropriate audio setting for your external device. It will only affect a disc playback.

Use [▲ / ▼] to select a desired item, then press [ENTER].



A Dynamic Range Control (Default : ON)

Set to "ON" to compress the range between soft and loud sounds. Use [▲ / ▼] to select a setting, then press [ENTER].



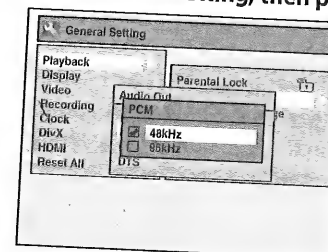
Your setting will be activated.

Note

- Dynamic range control function is available only on the discs which are recorded in the Dolby Digital format.

B Settings for PCM (Default : 48kHz)

Use [▲ / ▼] to select a setting, then press [ENTER].

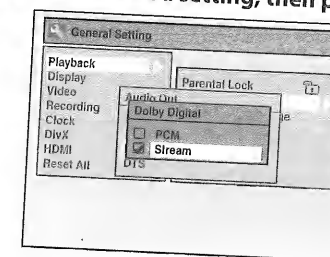


Your setting will be activated.

48kHz : If your amplifier/decoder is NOT compatible with 96kHz PCM, select "48kHz". 96kHz sound will be output.

C Settings for Dolby Digital (Default : Stream)

Use [▲ / ▼] to select a setting, then press [ENTER].

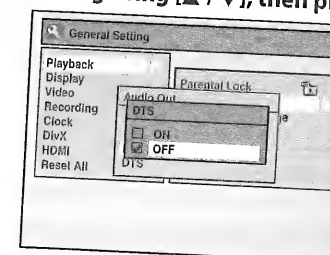


Your setting will be activated.

- PCM** : Converts the Dolby Digital into PCM (2 channel). When your amplifier/decoder is NOT compatible with Dolby Digital, set to "PCM".
- Stream** : Outputs Dolby Digital signals. When your amplifier/decoder is compatible with Dolby Digital, set to "Stream".

D Settings for DTS (Default : OFF)

Select a setting using [▲ / ▼], then press [ENTER].



Your setting is activated.

- ON** : Outputs DTS signals. If your amplifier / decoder is compatible with DTS, set to "ON".
- OFF** : No DTS signal is output. If your amplifier / decoder is NOT compatible with DTS, set to "OFF".

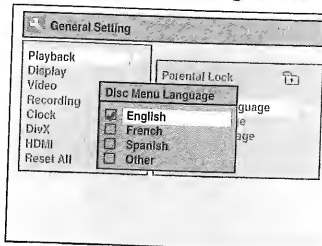
GENERAL SETTING

Playback (cont'd)

3 Disc Menu Language (Default : English)

Set the language for disc menu.

Use **[▲ / ▼]** to select a language, then press **[ENTER]**.

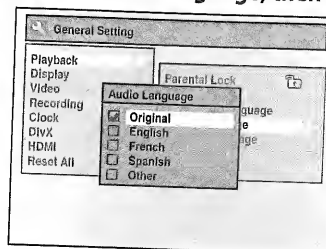


Your setting will be activated.

4 Audio Language (Default : Original)

Set the audio language.

Use **[▲ / ▼]** to select a language, then press **[ENTER]**.



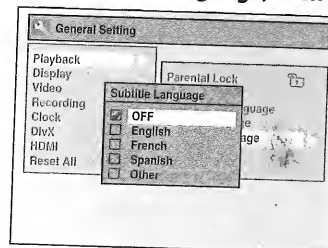
Your setting will be activated.

- When "Original" is selected, the audio language will be in the disc's default language.

5 Subtitle Language (Default : OFF)

Set the subtitle language.

Use **[▲ / ▼]** to select a language, then press **[ENTER]**.



Your setting will be activated.

If "Other" is selected for **3** to **5**, press 4-digit code using **[the Number buttons]**.

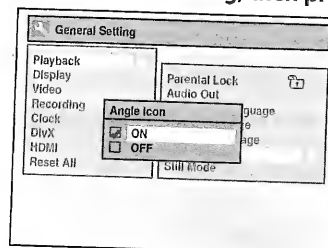
Note

- Only the languages supported by the disc can be selected.
- Audio language setting may not be available to some discs.
- You can change or switch off the subtitles on a DVD also from the disc menu if it is available.
- Press **[CLEAR]** to erase numbers entered incorrectly.

6 Angle Icon (Default : ON)

Set to "ON" to show the angle icon during the playback.

Use **[▲ / ▼]** to select a setting, then press **[ENTER]**.

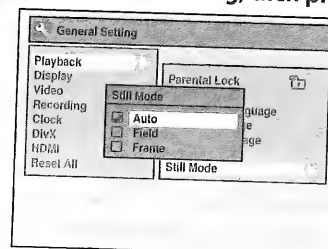


Your setting will be activated.

7 Still Mode (Default : Auto)

Select "Auto" usually.

Use **[▲ / ▼]** to select a setting, then press **[ENTER]**.



Your setting will be activated.

- Auto** : Optimum resolution setting ("Field" or "Frame") will be selected.
- Field** : Images in the still mode will be stabilized.
- Frame** : Images in the still mode will be highly defined.

Note

- Frame is one completed video image made up of two fields (There are 30 frames per second of NTSC video).

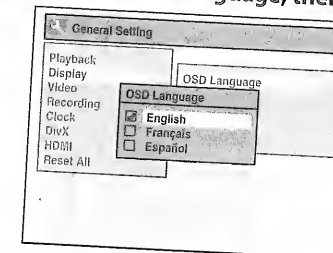
GENERAL SETTING

Display

1 OSD Language (Default : English)

Set the language for the on-screen display.

Use **[▲ / ▼]** to select a language, then press **[ENTER]**.

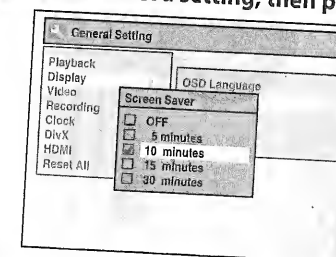


Your setting will be activated.

2 Screen Saver (Default : 10 minutes)

Set the time to activate the screen saver function on the TV screen.

Use **[▲ / ▼]** to select a setting, then press **[ENTER]**.

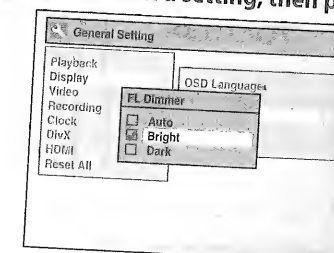


Your setting will be activated.

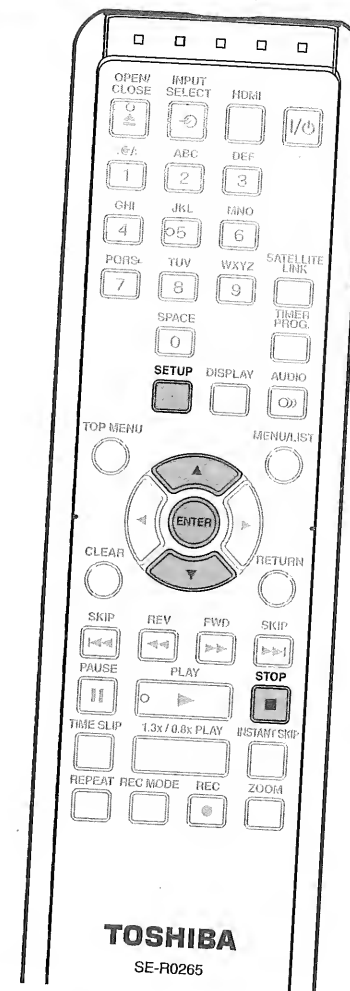
3 FL Dimmer (Default: Bright)

Set the front panel display brightness.

Use **[▲ / ▼]** to select a setting, then press **[ENTER]**.



You can choose one from "Auto", "Bright" or "Dark". If "Auto" is selected, the display gets dark when the power is off.



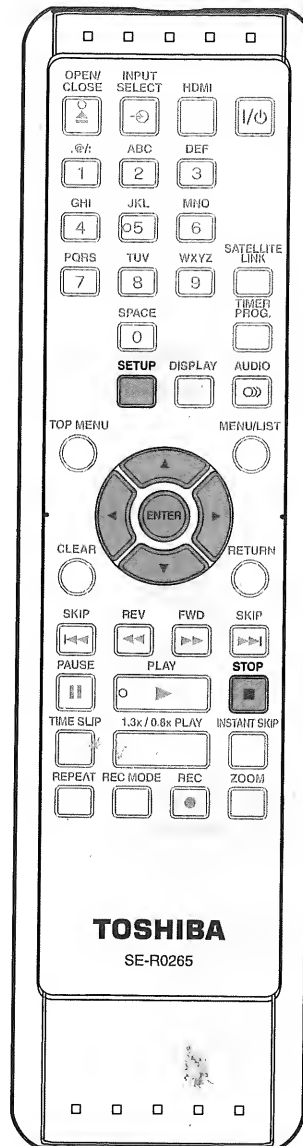
Press **[STOP ■]** if you are playing back a disc.

1 Press **[SETUP]** and use **[▲ / ▼]** to select "General Setting", then press **[ENTER]**.

2 Use **[▲ / ▼]** to select "Display", then press **[ENTER]**.

GENERAL SETTING

Video

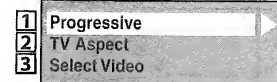


Press [STOP ■] if you are playing back a disc.

1 Press [SETUP] and use [▲ / ▼] to select "General Setting", then press [ENTER].

2 Use [▲ / ▼] to select "Video", then press [ENTER].

3 Use [▲ / ▼] to select a desired item, then press [ENTER].



Submenu will appear.

4 Refer **1** to **2** on page 91 and set the selected item.

• For **3**, refer to "SETTING FOR THE VIDEO INPUT" on page 19.

5 When you finish with the setting, press [SETUP] to exit.

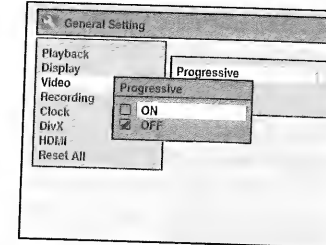
GENERAL SETTING

Video (cont'd)

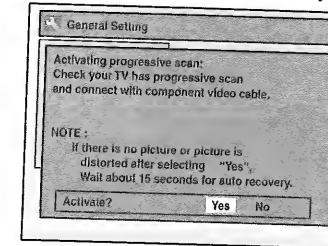
1 Progressive (Default : OFF)

This unit is compatible with the progressive scan system. The feature provides you with the higher definition images than the traditional output system does. To utilize this feature, you must set progressive scan mode to "ON".

1) Use [▲ / ▼] to select "ON", then press [ENTER].



2) Use [◀ / ▶] to select "Yes", then press [ENTER].



3) Use [▲ / ▼] to select "Yes" within 15 seconds, then press [ENTER].
Your setting will be activated.

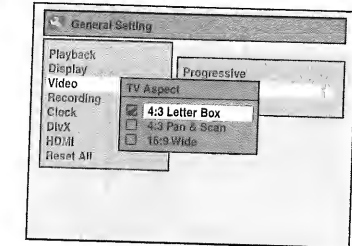
Note

- If your TV is compatible with progressive scan (480p), you are recommended to use the HDMI or commercially available component video cable to connect this unit to the TV. (Refer to "Method 3" on page 20.) If not, use the RCA video cable and set the progressive scan to "OFF" or press and hold [SETUP] for more than 3 seconds during DVD playback.
- When selecting "No" or not pressing any buttons on the unit or remote control within 15 seconds at step 3, progressive scan remains to be "OFF" (interlace scan).

2 TV Aspect (Default: 4:3 Letter Box)

You can select the TV aspect ratio to match the formats of what you are playing back with the unit and your TV screen (4:3 standard or 16:9 widescreen TV).

Use [▲ / ▼] to select a desired option, then press [ENTER].



If you have a standard TV:

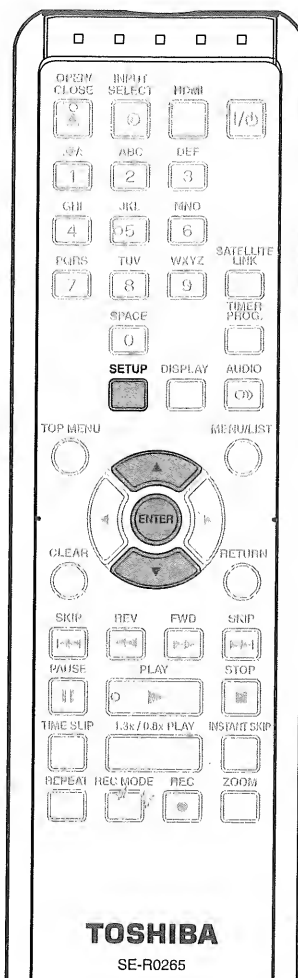
Select "4:3 Letter Box", so that black bars appear on the top and bottom of the TV screen when playing back a wide-screen picture. Select "4:3 Pan & Scan" for a full height picture with both sides trimmed when playing back wide-screen picture.

If you have a widescreen TV:

Select "16:9 Wide".

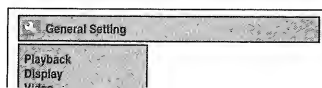
GENERAL SETTING

DivX®



1 Press [SETUP] in stop mode and use [▲ / ▼] to select "General Setting", then press [ENTER].

2 Use [▲ / ▼] to select "DivX", then press [ENTER].

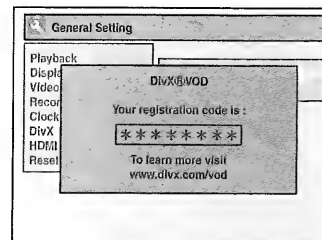


3 Use [▲ / ▼] to select a desired item, then press [ENTER].

1 DivX® VOD
2 DivX Subtitle

1 DivX® VOD

This unit allows you to play back the files purchased or rented from DivX® VOD (video-on-demand) services. The files are available on the internet. When you purchase or rent DivX® VOD files on the internet, you will be asked to enter an activation/registration code. This menu item provides you with the activation/registration code. On how to activate this unit for the DivX® VOD file playback, visit www.divx.com/vod.



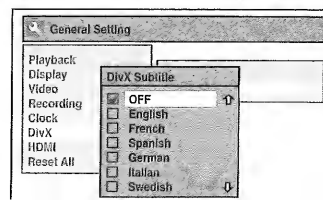
Note

- One registration code is only valid for one DivX® VOD file.
- You must first download the file from the internet and play it back on this unit before you are able to get another code.
- You must follow this step every time you purchase or rent a DivX® VOD file from the internet.
- For more information for DivX®, please visit <http://www.divx.com/vod>.
- The registration code will be displayed in 8 characters consist of numbers between 0 to 9 and capital letters chosen randomly.

2 DivX Subtitle (Default : OFF)

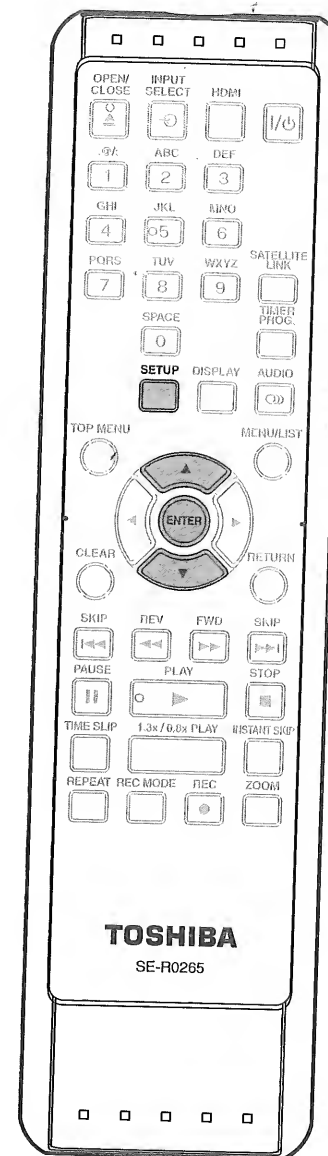
Set the DivX® subtitle.

Use [▲ / ▼] to select a setting, then press [ENTER].



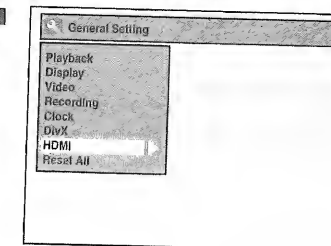
GENERAL SETTING

HDMI



1 Press [SETUP] in stop mode and use [▲ / ▼] to select "General Setting", then press [ENTER].

2 Use [▲ / ▼] to select "HDMI", then press [ENTER].



3 Use [▲ / ▼] to select a desired item, then press [ENTER].

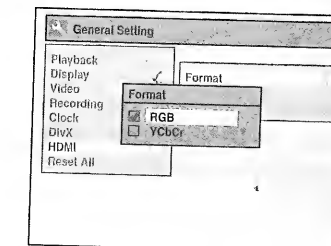
1 Format
2 HDMI Audio
3 RGB Range

1 Format (Default : RGB)

You can select the color space for HDMI output. Set the appropriate color space for your display device.

Use [▲ / ▼] to select a setting, then press [ENTER].

- When the connected device is not compatible with the Y/Cb/Cr, HDMI signal is output as RGB regardless of the setting.



Your setting will be activated.

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GENERAL SETTING

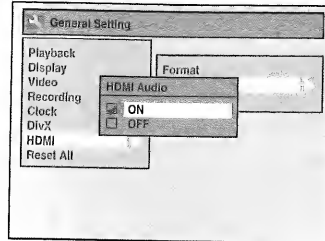
HDMI (cont'd)

2 HDMI Audio (Default : ON)

If you do not want to output the audio through HDMI (when you digitally output the audio through the COAXIAL DIGITAL AUDIO OUTPUT jack to your audio system, etc.), you can set the HDMI audio output off.

Use **[▲ / ▼]** to select a setting, then press **[ENTER]**.

- Set to "OFF" when the HDMI sound is not outputted.



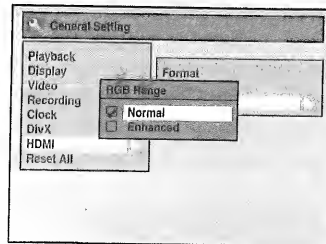
Your setting will be activated.

3 RGB Range (Default : Normal)

You can adjust the RGB range to make the dark areas of the HDMI images brighter.

Use **[▲ / ▼]** to select a setting, then press **[ENTER]**.

- Select "Enhanced" if the black-white contrast is not clear.
- This setting is effective only for HDMI RGB output.



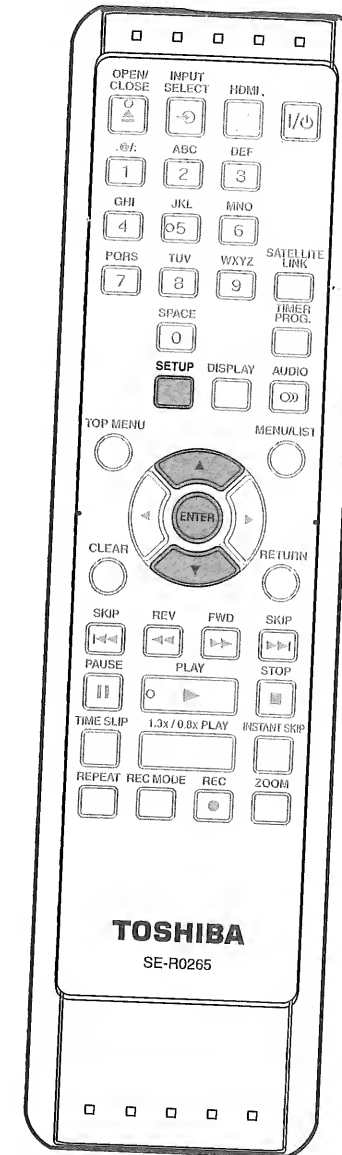
Your setting will be activated.

4 When you finish with the setting, press **[SETUP]** to exit.

GENERAL SETTING

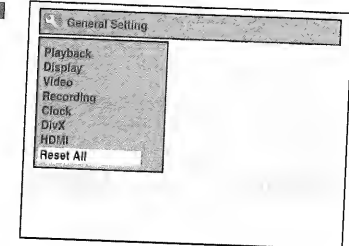
Reset All

Reset the setting to default.

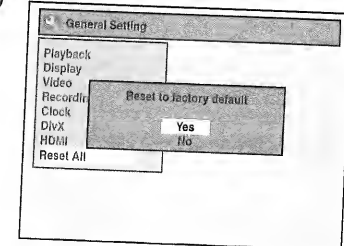


1 Press **[SETUP]** in stop mode and use **[▲ / ▼]** to select "General Setting", then press **[ENTER]**.

2 Use **[▲ / ▼]** to select "Reset All", then press **[ENTER]**.



3 Select "Yes" using **[▲ / ▼]**, then press **[ENTER]**.



"Are you sure?" will appear. Select "Yes" using **[▲ / ▼]** and then press **[ENTER]**.
Your setting will be initialized.

TROUBLESHOOTING


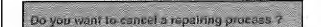
Before requesting service for this unit, check the table below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.

Symptom	Remedy
Power	
The power does not turn on.	<ul style="list-style-type: none"> Check that the AC power cord is connected securely. Check the breaker (in case of power failure).
Picture	
There is no picture.	<ul style="list-style-type: none"> Re-connect the connecting cords securely. Check if the connecting cords are damaged. If the main menu appears on the TV screen, press [RETURN] to exit. Check the connection to your TV (page 20). Check if the progressive scan mode is set correctly according to your TV (page 91). Switch the input selector on your TV (such as to "L1") so that the signal from the unit appears on the TV screen.
Picture noise appears.	<ul style="list-style-type: none"> Clean the disc with a cleaning cloth.
TV program pictures are distorted.	<ul style="list-style-type: none"> Check if all the connections are made correctly (page 18).
Playback picture is distorted.	<ul style="list-style-type: none"> Keep the device which may cause electrical disturbances, such as a cellular phone away.
Playback picture or TV program from the device connected through the unit is distorted.	<ul style="list-style-type: none"> If the playback picture output from a DVD player, VCR or tuner goes through the unit before reaching your TV, the copy-protection signal applied to some programs could affect picture quality. Disconnect the playback device in question and connect it directly to your TV.
Cannot record a TV program.	<ul style="list-style-type: none"> This unit does not have a tuner to receive TV broadcasting. You must connect this unit to an external tuner to record TV programs (page 18).
Sound	
There is no sound.	<ul style="list-style-type: none"> Clean the disc with a cleaning cloth. Re-connect all connections securely. Check if the connecting cord is damaged. Check the connections to the amplifier input. The input device setting on the amplifier is incorrect. The unit is in pause mode or in slow-motion playback mode. The unit is in fast forward or fast reverse mode. If the audio signal does not come through the DIGITAL AUDIO OUTPUT (COAXIAL) jack, check the setting in "Audio Out" (page 87).
No DTS sound on digital output.	<ul style="list-style-type: none"> Change the setting menu for DTS to ON.
No DTS sound from analog output	<ul style="list-style-type: none"> This unit has no analog sound output when playing back the selected DTS sound mode.
Sound is noisy.	<ul style="list-style-type: none"> Clean the disc with a cleaning cloth.
Remote control	
The remote control does not function.	<ul style="list-style-type: none"> Batteries are weak. There are obstacles between the remote control and the unit. The remote control is far from the unit. There are no batteries in the remote control. Check if the unit is turned on. The remote control is not pointed at the infrared sensor window on the unit.

TROUBLESHOOTING

Symptom	Remedy
Playback	
The disc does not play back.	<ul style="list-style-type: none"> No disc is inserted. A blank disc is inserted. The disc is upside down. Insert the disc with the labeled side facing up. The disc is not correctly inserted. The unit cannot play back certain discs (such as a CD-ROM) (page 10). The region code on the DVD-video does not match the unit (page 10). Moisture has condensed inside the unit. Remove the disc and leave the unit turned on for about 2 hours until the moisture evaporates (page 4). If the disc was recorded on another recorder, the unit cannot play back the disc if it was not finalized.
Playback image freezes for a second.	<ul style="list-style-type: none"> During the playback of 2 layered disc, picture may freeze for a moment when the 1st layer switches to the 2nd layer. This is not a malfunction.
The disc does not start playback from the beginning.	<ul style="list-style-type: none"> Resume playback was activated (page 56). Press [STOP ■] twice. You have inserted a disc whose title menu or DVD menu automatically appears on the TV screen when it is first inserted.
The unit starts playing back the disc automatically.	<ul style="list-style-type: none"> The DVD-video features an auto playback function.
Some functions such as stop, search, or slow-motion playback cannot be performed.	<ul style="list-style-type: none"> Depending on the disc, you may not be able to do some of the operations. Refer to the instruction manual supplied with the disc.
The language for the sound track cannot be changed.	<ul style="list-style-type: none"> Tracks multilingual are not recorded being played back. The DVD-video prohibits the changing of the language for the sound track.
The subtitle language cannot be changed or turned off.	<ul style="list-style-type: none"> Multilingual subtitle are not recorded on the DVD-video.
The angles cannot be changed.	<ul style="list-style-type: none"> Multi-angles are not recorded on the DVD-video being played back. The angle-change operation is whenever possible as long as the disc contains a multi-angle portion. Actual change will be performed when the portion has come up. The DVD-video prohibits changing angles. Try changing the angle using the DVD-video's menu.
Recording / Timer recording / Editing	
External input position (L1/L2) cannot be changed while recording.	<ul style="list-style-type: none"> This unit is designed so. This is not a malfunction.
Nothing was recorded even though you set the timer setting correctly.	<ul style="list-style-type: none"> There was a power failure during recording. The unit's internal clock stopped due to a power failure that lasted for more than 30 seconds. Reset the clock (page 25). The program contains copy protection signals that restricts copying. The timer setting overlapped with another setting that has priority.
Recording does not stop immediately after you press [STOP ■] .	<ul style="list-style-type: none"> It will take a few seconds for the unit to input disc data before recording stops.
Timer recording is not complete or did not start from the beginning.	<ul style="list-style-type: none"> The timer setting overlapped with another setting that has priority (page 40). Disc space was not enough. "Make Recording Compatible" is not set to "ON", when recording onto DVD+RW/+R that was recorded on other unit.

TROUBLESHOOTING

Symptom	Remedy
DV DV signal cannot be input.	<ul style="list-style-type: none"> Before connection, turn on the power supplies for both this unit and the DVC, and make sure that these units are in stop mode. Only a "DVC-SD" signal can be input from the DVC to this unit. Other types of signals are not supported. Do not connect any device other than the DVC. Even if a recorder or PC with another DV terminal is connected, the DV function will not operate. If the DVC is not recognized after connection, turn off the power supply for the unit and re-connect the DVC.
The DVC cannot be operated with this unit.	<ul style="list-style-type: none"> Signal input or DVC operation from this unit may be disabled depending on the type of DVC. If a DVC signal cannot be input, use an external input (L1/L2) for analog connection via audio/video cables. DVC control may be disabled depending on the type of DVC, even in a mode other than camera mode. In this case, switch to DVD control and execute the normal recording procedure while operating the DVC.
Certain functions of the unit cannot operate.	<ul style="list-style-type: none"> Some functions may not operate depending on the type of DVC. For example, if the DVC does not support slow playback mode, the slow playback function is disabled. With L3 (DV), the disc display menu does not appear unless disc playback is executed.
DV audio signal cannot be switched.	<ul style="list-style-type: none"> For recording with the DVC, the recording audio signal can be set to 12 bits or 16 bits. However, when 16-bit recording mode is selected, audio signal cannot be switched. To record an audio signal, set it to 12 bits.
HDMI No image from HDMI connection.	<ul style="list-style-type: none"> Check the HDMI connection. (Check the status of the HDMI related indications.) Check whether the connected monitor device or other device supports HDCP. (This unit will not output a video signal unless the other device supports HDCP.) Check the setting of HDMI. Check whether the output format of this unit (HDMI FORMAT) matches the supported input format of other connected device.
There is no sound or the sound is distorted.	<ul style="list-style-type: none"> The HDMI sound is not output when "HDMI Audio" is set to "OFF". Check the RCA audio cable connection. If you are using HDMI-DVI conversion cable, you must connect the RCA audio cable, too. Check whether the output format of this unit (HDMI FORMAT) matches the supported input format of other connected device.
Others The unit does not operate properly.	<ul style="list-style-type: none"> When static electricity, etc., causes the unit to operate abnormally, unplug the unit and then plug it in again.
The disc tray does not open when you press [OPEN/CLOSE ▲].	<ul style="list-style-type: none"> It may take a few seconds for the disc tray to open after you have recorded or edited a disc. This is because the unit is adding disc data to the disc.
"Repairing" appears on the TV screen. 	<ul style="list-style-type: none"> If there is a power failure or unplugging during recording, finalizing, formatting or editing (even after "Repairing" disappears), a repairing process will begin automatically just after turning the unit on again. It may take several minutes up to about several hours.
In a case you intend to cancel the repairing process.	<ul style="list-style-type: none"> If you intend to cancel the repairing process, press [OPEN/CLOSE ▲] on the front panel, then select "Yes" and press [ENTER]. After that, press [OPEN/CLOSE ▲] to take out the disc. The disc canceled during the repairing process MAY NOT work.
	

TROUBLESHOOTING

Error message	Cause	Solution
Disc Error — Please eject the disc. — Playback feature may not be available on this disc.	<ul style="list-style-type: none"> Unplayable disc is inserted in the unit. The disc is upside down. 	<ul style="list-style-type: none"> Insert the standardized disc which have the marks on page 10. Insert the disc with the labeled side facing up.
Region Error — Please eject the disc. — Playback is not authorized in your region.	<ul style="list-style-type: none"> Playback is not authorized in the region of the DVD-video which you inserted in the unit. 	<ul style="list-style-type: none"> Insert the DVD-video with region codes 1 or ALL.
Parental Lock On The current selected parental level prohibits playback.	<ul style="list-style-type: none"> The current selected parental level prohibits playback. 	<ul style="list-style-type: none"> Check "Parental Lock" setting in "Playback" menu (page 86).
Recording Error This program is not allowed to be recorded.	<ul style="list-style-type: none"> You are trying to record the copy prohibited program. 	<ul style="list-style-type: none"> You cannot record copy prohibited programs.
Recording Error This program is not recordable in Video mode.	<ul style="list-style-type: none"> You are trying to record the copy-once program onto the DVD-RW disc in video mode. 	<ul style="list-style-type: none"> Set "Format Mode" to "VR mode" (pages 26-27).
Recording Error This program is not recordable in +VR mode.	<ul style="list-style-type: none"> You are trying to record the copy-once program. 	<ul style="list-style-type: none"> Insert the DVD-RW disc in VR mode (ver.1.1 or 1.2 compatible with CPRM).
Recording Error Cannot record on this disc.	<ul style="list-style-type: none"> You are trying to record onto the disc which is unrecordable, or the disc status is unable to record. The disc is dirty. The disc is damaged. 	<ul style="list-style-type: none"> Insert the recordable disc, and ensure the disc status satisfies the recording requirements (page 9). Clean the disc with a cleaning cloth. Replace the disc.
Recording Error This program is not allowed to be recorded on this disc.	<ul style="list-style-type: none"> You are trying to record the copy-once program onto the DVD-RW disc which is not compatible with CPRM. 	<ul style="list-style-type: none"> Insert the DVD-RW disc in VR mode (ver.1.1 or 1.2 compatible with CPRM).
Recording Error This disc is protected and not recordable.	<ul style="list-style-type: none"> You are trying to record on to the protected disc which is set in "DVD Menu" menu. 	<ul style="list-style-type: none"> Release the disc protect setting in "DVD Menu" menu (page 30).
Recording Error Disc is full. (No area for new recording)	<ul style="list-style-type: none"> You are trying to record onto the disc which has no space for recording. 	<ul style="list-style-type: none"> Insert the recordable disc with enough recording space.
Recording Error You cannot record more than 99 titles on one disc. (The maximum is 99)	<ul style="list-style-type: none"> You are trying to record onto the DVD-RW/-R on which the number of recording titles comes up to the maximum (99). 	<ul style="list-style-type: none"> Delete unnecessary titles (page 69).
Recording Error You cannot record more than 999 chapters on one disc. (The maximum is 999)	<ul style="list-style-type: none"> You are trying to record onto the VR mode DVD-RW on which the number of recording chapters comes up to the maximum (999). 	<ul style="list-style-type: none"> Delete unnecessary chapter marks (page 75).
Recording Error You cannot record more than 49 titles on one disc. (The maximum is 49)	<ul style="list-style-type: none"> You are trying to record onto the DVD+RW/+R on which the number of recording titles comes up to the maximum (49). 	<ul style="list-style-type: none"> Delete unnecessary titles (page 69).
Recording Error You cannot record more than 254 chapters on one disc. (The maximum is 254)	<ul style="list-style-type: none"> You are trying to record onto the DVD+RW on which the number of recording chapters comes up to the maximum (254). 	<ul style="list-style-type: none"> Delete unnecessary chapter marks (page 75).
Recording Error You cannot record on this disc as Control Information is full.	<ul style="list-style-type: none"> This disc has no space to write the Control Information when recording or deleting contents. When editing has been repeatedly performed, the control information area may come up to be full even the recording area has enough space. 	<ul style="list-style-type: none"> Delete unnecessary titles (page 69).
Recording Error You cannot record on this disc as Power Calibration Area is full.	<ul style="list-style-type: none"> When recordings are performed repeatedly onto an unstable disc, this area may come up to be full. Every time you insert a disc for recording, the disc's working area will be taken up. And if you repeat this frequently, it will be used up sooner and you may not be able to record full 49 titles. 	<ul style="list-style-type: none"> Insert a new disc.
Recording Error This disc is already finalized.	<ul style="list-style-type: none"> You are trying to record onto the disc already finalized. 	<ul style="list-style-type: none"> Undo the finalizing for this disc (page 33).
Recording Error The disc has no recording compatibility. (Set "Make Recording Compatible" to "ON" to convert the disc menu.)	<ul style="list-style-type: none"> You are trying to record onto the unfinalized +VR mode discs recorded on other unit. 	<ul style="list-style-type: none"> Set "Make Recording Compatible" to "ON" to rewrite the menu, after that you will record to disc (page 28).

LANGUAGE CODE

Language	Code
Abkhazian	4748
Afar	4747
Afrikaans	4752
Albanian	6563
Amharic	4759
Arabic	4764
Armenian	5471
Assamese	4765
Aymara	4771
Azerbaijani	4772
Bashkir	4847
Basque	5167
Bengali; Bangla	4860
Bhutani	5072
Bihari	4854
Bislama	4855
Breton	4864
Bulgarian	4853
Burmese	5971
Byelorussian	4851
Cambodian	5759
Catalan	4947
Chinese	7254
Corsican	4961
Croatian	5464
Czech	4965
Danish	5047
Dutch	6058
English	5160
Esperanto	5161
Estonian	5166
Faroese	5261
Fiji	5256
Finnish	5255
French	5264
Frisian	5271
Galician	5358
Georgian	5747
German	5051
Greek	5158
Greenlandic	5758
Guarani	5360
Gujarati	5367
Hausa	5447
Hebrew	5569

Language	Code
Hungarian	5467
Icelandic	5565
Indonesian	5560
Interlingua	5547
Interlingue	5551
Inupiak	5557
Irish	5347
Italian	5566
Japanese	5647
Javanese	5669
Kannada	5760
Kashmiri	5765
Kazakh	5757
Kinyarwanda	6469
Kirghiz	5771
Kirundi	6460
Korean	5761
Kurdish	5767
Laothian	5861
Latin	5847
Latvian; Lettish	5868
Lingala	5860
Lithuanian	5866
Macedonian	5957
Malagasy	5953
Malay	5965
Malayalam	5958
Maltese	5966
Maori	5955
Marathi	5964
Moldavian	5961
Mongolian	5960
Nauru	6047
Nepali	6051
Norwegian	6061
Occitan	6149
Oriya	6164
Oromo (Afan)	6159
Panjabi	6247
Pashto; Pushto	6265
Persian	5247
Polish	6258
Portuguese	6266
Quechua	6367
Rhaeto-Romance	6459

Language	Code
Russian	6467
Samoa	6559
Sango	6553
Sanskrit	6547
Scots Gaelic	5350
Serbian	6564
Serbo-Croatian	6554
Sesotho	6566
Setswana	6660
Shona	6560
Sindhi	6550
Singhalese	6555
Siswat	6565
Slovak	6557
Slovenian	6558
Somali	6561
Spanish	5165
Sundanese	6567
Swahili	6569
Swedish	6568
Tagalog	6658
Tajik	6653
Tamil	6647
Tatar	6666
Telugu	6651
Thai	6654
Tibetan	4861
Tigrinya	6655
Tonga	6661
Tsonga	6665
Turkish	6664
Turkmen	6657
Twi	6669
Ukrainian	6757
Urdu	6764
Uzbek	6772
Vietnamese	6855
Volapuk	6861
Welsh	4971
Wolof	6961
Xhosa	7054
Yiddish	5655
Yoruba	7161
Zulu	7267

GLOSSARY

Analog Audio

An electrical signal that directly represents sound. Compare this to digital audio which can be an electrical signal, but is an indirect representation of sound. See also "Digital Audio".

Aspect Ratio

The width of a TV screen relative to its height. Conventional TVs are 4:3 (in other words, the TV screen is almost square); widescreen models are 16:9 (the TV screen is almost twice as wide as it is high).

Chapter

Just as a book is split up into several chapters, a title on a DVD is usually divided into chapters. See also "Title".

Component Video Output

Each signal of luminance (Y) and component (P_B/C_B, P_R/C_R) is independent to output so that you can experience picture color as it is. Also, due to compatibility with progressive video (480p), you can experience higher-density picture than that in interlace (480i).

Digital Audio

An indirect representation of sound by numbers. During recording, the sound is measured at discrete intervals (44,100 times a second for CD audio) by an analog-to-digital converter, generating a stream of numbers. On playback, a digital-to-analog converter generates an analog signal based on these numbers. See also "Sampling Frequency" and "Analog Audio".

DivX®

DivX® is a codec (compression/decompression) that can compress images to a very small amount of data.

Dolby® Digital

The system to compress digital sound developed by Dolby Laboratories. It offers you sound of stereo(2ch) or multi channel audio.

DTS® (Digital Theater System)

DTS is a multi channel surround sound system. By connecting to DTS decoder you can enjoy dynamic and realistic sound like movie theatre. DTS surround sound technologies were developed by DTS, Inc.

Finalize

To make DVD, which have been recorded on, possible to play back in DVD players.

HDMI™ (high definition multimedia interface)

A digital interface between audio and video source. It can transmit component video, audio, and control signal with one cable connection.

JPEG (joint photographic experts group)

JPEG is a method of compressing still image files. You can copy JPEG files on CD-RW/-R from a computer and play back the files on this unit.

PCM (pulse code modulation)

The most common system of encoding digital audio, found on CD and DAT. Excellent quality, but requires a lot of data compared to formats such as Dolby Digital and MPEG audio. For compatibility with digital audio recorders (CD, MD and DAT) and AV amplifiers with digital inputs, this unit can convert Dolby Digital and MPEG audio to PCM. See also "Digital Audio".

Progressive Scan (480p)

A type of display that does not split each frame into fields, and instead scans directly through all the scanlines of each frame in order. Progressive scan provides less flickering and higher image resolution than traditional (480i) TV signals. Refer to page 91 for instructions on selective progressive scan mode.

Region Code

Regions associate discs and players with particular areas of the world. This unit will only play back discs that have compatible region codes. You can find the region code of your unit by looking on the rear panel. Some discs are compatible with more than one region (or all regions).

Sampling Frequency

The rate which sound is measured by a specified interval to turn into digital audio data. The numbers of sampling in one second defines as sampling frequency. The higher the rate, the better the sound quality.

S-Video Output

It delivers independently each signal of color(C) and luminance(Y) to TV as video signals, so that higher-quality picture will be gained.

Title (DVD only)

A collection of chapters on DVD. See also "Chapter".

Track

Audio CD use tracks to divide up the content of a disc. The DVD equivalent is called a chapter. See also "Chapter".

Video mode

Video mode is the same recording format as used on the DVD videos you purchase in local shops. You can play back the discs recorded in this format in most DVD players, however it offers only limited editing. You will need to finalize discs recorded in video mode before playing them back on other unit.

VR mode

A basic recording format for DVD-RW. VR mode offers advanced editing, and you can record and edit material repeatedly, however it is playable only on VR mode compatible unit. Finalization is recommended before playing them back on other unit.

WMA (Windows Media™ Audio)

WMA is the audio compressing technology developed by

SPECIFICATIONS

- This model complies with the below specifications.
- Designs and specifications are subject to change without notice.
- This model may not be compatible with features and/or specifications that may be added in the future.

General

System	DVD-RW/-R, DVD+RW/+R, DVD-video, CD-DA, CD-RW/-R
Power requirements	AC120 V, 60 Hz
Power consumption	18 W (standby: 2.8 W)
Weight	5.3 lbs (2.4 kg)
Dimensions (width x height x depth)	16 9/16" x 2 3/8" x 10 1/16" (420 x 59 x 254 mm)
Operating temperature	41 °F to 104 °F (5 °C to 40 °C)
Operating humidity	Less than 80% (no condensation)
TV format	NTSC

Recording

Recording format	VR (video recording) format Video format +VR format
Recording discs	DVD-Rewritable/-Recordable, DVD+Rewritable/+Recordable
Video recording format	
Sampling frequency	13.5 MHz
Compression format	MPEG
Audio recording format	
Sampling frequency	48 kHz
Compression format	Dolby Digital/LPCM (XP Recording mode only)

Input / Output

Video input	Input 1 (rear), 2 (front)
Input level	1 Vp-p (75Ω)
Jacks	RCA jack
Video output	Output 1 (rear)
Output level	1 Vp-p (75Ω)
Jack	RCA jack
S-video input	Input 1 (rear), 2 (front)
Y (luminance) - Input level	1 Vp-p (75Ω)
C (color) - Input level	286 mVp-p (75Ω)
Jacks	4 pin mini DIN
S-video output	Output 1 (rear)
Y (luminance) - Output level	1 Vp-p (75Ω)
C (color) - Output level	286 mVp-p (75Ω)
Jack	4 pin mini DIN
Component video output	Output 1 (rear)
Output level	Y: 1.0 Vp-p (75Ω), Pb/Cb, Pr/Cr: 0.7 Vp-p (75Ω)
Jacks	RCA jacks
HDMI output	
Jack	HDMI jack
Audio input	Input 1 (rear), 2 (front) L/R
During audio input	2 V rms (input impedance: more than 22 kΩ)
Jacks	RCA jacks
Audio output	Output 1 L/R (rear)
During audio output	2 V rms (output impedance: less than 1 kΩ)
Jacks	RCA jacks
Digital audio output	Output 1 (rear) COAXIAL
Output level	500 mVp-p (75Ω)
Jack	RCA jack
DV input	IEEE 1394
Jack	DV input jack (4 pin)

LIMITED WARRANTY

Limited United States Warranty

Digital Audio Video ("DAV") Product - Exchange Warranty

Toshiba America Consumer Products, L.L.C. ("TACP") makes the following limited warranties to original consumers in the United States. THESE LIMITED WARRANTIES EXTEND TO THE ORIGINAL CONSUMER PURCHASER OR ANY PERSON RECEIVING THIS DAV PRODUCT AS A GIFT FROM THE ORIGINAL CONSUMER PURCHASER AND TO NO OTHER PURCHASER OR TRANSFEREE.

DAV PRODUCTS PURCHASED IN THE U.S.A. AND USED ANYWHERE OUTSIDE OF THE U.S.A., INCLUDING, WITHOUT LIMITATION, CANADA AND MEXICO, ARE NOT COVERED BY THESE WARRANTIES.

DAV PRODUCTS PURCHASED ANYWHERE OUTSIDE OF THE U.S.A., INCLUDING, WITHOUT LIMITATION, CANADA AND MEXICO, AND USED IN THE U.S.A., ARE NOT COVERED BY THESE WARRANTIES.

Limited Warranty

TACP warrants this DAV Product and its parts against defects in materials or workmanship for a period of ninety (90) days after the date of original retail purchase.

DURING THIS PERIOD, TACP WILL EXCHANGE A DEFECTIVE DAV PRODUCT WITH A NEW OR REFURBISHED DAV PRODUCT WITHOUT CHARGE TO YOU. DURING THE PERIOD THAT COMMENCES ON THE DATE THAT IS NINETY ONE (91) DAYS AFTER THE DATE OF ORIGINAL RETAIL PURCHASE AND ENDS ON THE DATE THAT IS THREE HUNDRED SIXTY FIVE (365) DAYS AFTER THE DATE OF ORIGINAL RETAIL PURCHASE, TACP WILL EXCHANGE A DEFECTIVE DAV PRODUCT WITH A NEW OR REFURBISHED DAV PRODUCT FOR A FEE.

Rental Units

The warranty for DAV Product rental units begins on the date of the first rental or thirty (30) days after the date of shipment to the rental firm, whichever comes first.

Commercial Units

DAV Products sold and used for commercial purposes have a limited warranty for all parts and labor, which warranty begins on the date of original retail purchase and ends on the date that is ninety (90) days thereafter.

Owner's Manual and Product Registration Card

Read this owner's manual thoroughly before operating this DAV Product.

Complete and mail the enclosed product registration card or register your DAV Product on-line at www.tacp.toshiba.com/service as soon as possible. By registering your DAV Product you will enable TACP to bring you new products specifically designed to meet your needs and help us to contact you in the unlikely event a safety notification is required under the U.S. Consumer Product Safety Act. Failure to complete and return the product registration card does not diminish your warranty rights.

Your Responsibility

THE ABOVE WARRANTIES ARE SUBJECT TO THE FOLLOWING CONDITIONS:

- (1) You must retain your bill of sale or provide other proof of purchase.
- (2) All warranty servicing of this DAV Product must be made pursuant to the TACP DAV Product Warranty Exchange Program.
- (3) The warranties from TACP are effective only if the DAV Product is purchased and operated in the Continental U.S.A. or Puerto Rico.
- (4) Labor service charges for set installation, setup, adjustment of customer controls, and installation or repair of antenna systems are not covered by this warranty. Reception problems caused by inadequate antenna systems are your responsibility.
- (5) Warranties extend only to defects in materials or workmanship as

How to Obtain Warranty Services

If, after following all of the operating instructions in this manual and checking the section "TROUBLESHOOTING," you find that service is needed:

- (1) For instructions on how to obtain warranty service for your DAV Product under the TACP DAV Product Warranty Exchange Program, contact TACP's Consumer Solutions Center toll free at 1-800-631-3811.
- (2) You must include the original bill of sale (or a copy of the original bill of sale) or other proof of purchase along with the entire DAV Product when sending the DAV Product to the TACP Warranty Exchange Center specified by TACP's Consumer Solutions Center. You are responsible for all inbound transportation and insurance charges for the DAV Product to the TACP Warranty Exchange Center.

For additional information, visit TACP's website: www.tacp.toshiba.com

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